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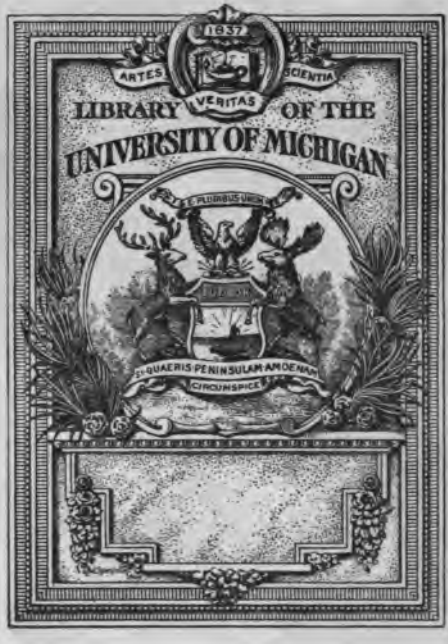
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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY:

EDITED BY

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AND

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MEDICINE AND SURGERY.

JULY, 1846.

ART. I.—*Cases of Amputation in Private Practice.* By WILLIAM M. BOLING, M.D., of Montgomery, Alabama.

A comparison of the success attendant on any particular operation, or class of operations, in private practice, with that in hospitals, would, perhaps, not be entirely devoid of interest. One element for such comparisons can readily be procured from the numerous publications of cases, and tabular views by hospital surgeons and physicians; but as in private practice the number of operations of any particular kind, performed by any one operator, must generally be limited; no comparison can be instituted from the published cases of any one. By taking the aggregate of cases published by a number of individuals, such comparisons might be made.

It seems to be a common impression, that the result of operations is generally more successful in private, than in hos-

pital practice; the advantages of the latter, arising from the greater dexterity of the operator, from frequent practice, being, it is said, more than balanced by the better air, &c., of private abodes.

In looking recently over the few amputations performed by myself, I was surprised at the great proportionate mortality, and for this reason only thought of offering them for publication; believing, however, that the average mortality of a larger number of cases, collected from private practice, would be much less.

Operations performed in hospitals are generally done by men in the daily habit of operating; conseqently the patient has all the benefit of that manual dexterity which is given by practice. This, however, is more limited than at first thought one would suppose, as the manner, in regard to neatness of execution, in which an operation is performed, and the time occupied in it, will, as a general rule, have very little influence over the ultimate result: not that operations are not occasionally performed so badly as to influence the result, but this is rarely the case. True, the practiced surgeon will perform an operation in a few seconds less of time, and may separate parts with the knife at two strokes, which would require three from one of less practice. He will do it too with apparent ease and facility, while to the other it appears a work of labor; still the issue perhaps is not influenced by this once in a hundred operations. But what is of infinitely more importance, as influencing the general result, is the knowledge acquired by practical experience, of the cases suitable for operations, under what circumstances an operation would be useless or hopeless, and the proper moment for its performance when decided upon.

Hospitals being always located in cities, consequently within the reach of many, nearly all the operations which are required for accidental injuries may be performed almost immediately after the infliction, and before constitutional disturbance from inflammation, gangrene, &c., can arise—a matter of no small importance in many instances. While in

private practice, or rather the country portion of private practice, the patients frequently being at a distance, this cannot be accomplished. Hospital patients have generally the advantage of the constant presence of a physician, or well qualified student, in case of any unforeseen accident or emergency. They have also the benefit of experienced nurses, who know their duty, and are satisfied with performing it, and no more; while the patient in private practice has to contend with that pest of society in general, and of sick persons and physicians in particular, the would-be doctresses—the old women, (old men, in this respect, occasionally put on the petticoats,) with her all-curing poultices, plasters, 'dr*a*ps,' or clysters.

The circumstances which are supposed to favor the result of operations in private practice, are these: The patients are said generally to be of a class superior to those of hospitals; but superiority in rank or wealth does not necessarily imply superiority in morals or habits, and the advantage in such cases depends solely on the constitution of the patient—whether impaired or not by vicious and immoral habits—for the hospital patient, after he becomes such, has all the advantages of nursing, attendance, &c., procurable by the generality of patients in private practice.

There is probably but little difference in the constitutional peculiarities, as produced or modified by the habits or morals of the individuals themselves, of patients in private and in hospital practice. I speak here in relation to operations required on account of injuries received from external violence of any kind, and more especially with reference to southern practice. The ruffian or bully, who receives his stab or gunshot wound at an election brawl in the country, a subject for private practice, has a constitution perhaps as much impaired by excess and dissipation, as the subject for hospital practice, who receives his injuries at a city bagnio or drinking-shop.

If, in the south, the patient in private practice has the benefit of any constitutional superiority, it is in the case of the

negro. The regular alternation of labor and rest, a due supply of wholesome nutriment, want of care and mental anxiety, and above all, an entire absence of those effects produced by excessive indulgence in intoxicating drinks, and dissipation generally, place him, in regard to constitution, far above the white laboring classes of the larger cities. In a practice of ten years in Alabama, I have neither seen nor heard of a case of delirium tremens in a slave. The greater liability of the negro in the south to tetanus, after injuries, admitting the supposition to be correct, may probably overbalance this advantage.

The great advantage to patients in private practice, of a purer air than that of hospitals, cannot be questioned.

The danger of the hospital patient is much increased by his exposure to contagious diseases, more especially erysipelas, which in some hospitals has, heretofore, if such is not even yet the case, added materially to the mortality arising from surgical operations. This is perhaps the only real and decided advantage of the patient in private practice, while the disadvantages under which he labors are numerous. I do not here take into consideration the *luxuries* of a sick room, but have reference merely to the necessaries calculated to influence the result. The former, of course, can only be procured in private practice, and among the wealthy.

Case I.—W. C., a stout, healthy farmer, about 35 years old, received in his left arm, on the 15th of July, 1837, a wound caused by the discharge of a gun containing 21 buckshot, and a rifle ball. The muzzle of the gun was within six feet of him at the time it was discharged. The load was received on the anterior surface of the forearm, about two inches below the elbow joint, shattering both bones very much, splitting the upper end of the ulna (as was afterwards discovered) as far up as the joint, and carrying several fragments with it, as it passed out from the posterior face of the arm. The muscles were almost entirely divided; the lower portion of the arm with the hand, hanging literally by two

small strips of skin, one on the radial, and the other on the ulnar side of the arm. The hemorrhage was considerable.

On the 16th, I was called to see him, but as the messenger was unaware of the extent of the injury, and as the request was to come and *set* a broken bone, I went unprepared for amputating. The distance was eighteen miles, consequently I could not procure my instruments in time to operate before the following morning.

On the morning of the 17th I amputated the arm by the circular operation about two inches above the elbow joint. He recovered in a reasonable time without any unfavorable symptoms. The stump was a bad one in consequence of a redundancy of integuments.

Case II.—A negro man, 30 years of age, has had a large ulcer of many years' standing, causing swelling of the foot and leg from a short distance below the knee to twice the natural size. It causes him much pain and constitutional disturbance, and seems incurable, as numerous and continued efforts have been made for that purpose.

He was a patient of Dr. Holt, at whose request, January 30th, 1841, I amputated the leg a short distance below the knee, by a modification of the circular operation, leaving the skin and mass of muscles forming the calf of the leg considerably longer than the integuments anteriorly.

According to the method of Liston, we did not attempt to dress the stump for several hours after the operation, and in doing so found the sensibility of the parts augmented to such a painful degree, that we had to desist till the patient could be brought under the influence of a large dose of tincture of opium. The slightest effort to lay the parts in apposition, caused violent spasmodic action in the muscles, in consequence of which every arterial branch was caused to throw out blood profusely, and he lost more during the few minutes we were making the attempt, than he did during the operation. This one experiment of the kind satisfied me.

The integuments were rather short, and the stump healed slowly.

Case III.—A negro girl, about 11 years old, received in the bottom of her foot a puncture with a nail. By neglect and mismanagement the foot was caused to mortify. The principal part of the mischief was probably done by dipping it in concentrated ley, such as is used in families for making soap.

Probably about three weeks after the injury, Dr. Ames was called to see her, and at his request I visited her with him a day or two after, for the purpose of amputating the limb. The whole foot was then destroyed; the bones protruding at various points, and mixed with the sloughing flesh, constituted an indiscriminate mass of fœtid rottenness. Her emaciation was extreme, and there were several abscesses on various parts of her body, (the consequence of purulent absorption), from which pus was profusely discharged. Her pulse was small, quick, and corded; skin hot and dry; countenance anxious and haggard. So extreme was her debility, that it was a question between Dr. Ames and myself whether she could sustain the loss of blood necessarily attendant on the operation, husband it as we might.

July 6th, 1841. The amputation was performed some distance below the knee, and notwithstanding every precaution, the loss of blood was much more considerable than we had anticipated. Perfectly thin, and almost colorless, it oozed from every point of the cut surface. By the use of stimulants, however, she sustained the operation, notwithstanding the loss of blood. It was my intention to have made a flap posteriorly, but there was nothing of which to form it, the small mass of muscle, not larger than a man's finger, merely filling the space behind, between the tibia and fibula. The circular operation was performed.

Contrary to all expectation she recovered. The principal remedies employed by Dr. Ames in her treatment, were I believe, bark, wine, and rich soups.

Case IV.—January 8th, 1842. A negro boy, about eight years old, while gathering chips near where another was chopping wood, placed his hand in the way of the axe as it descended, by which it was nearly severed from the arm, obliquely through the wrist joint. The part by which it remained adherent was composed of a small portion of integument, and tendinous and muscular structure on the radial side of the joint, in which remained probably undivided the superficialis volæ. The radial and ulnar arteries were both divided. Dr. Ames (whose patient he was) placed the parts in apposition, and dressed them in such a way with sutures, adhesive strips, and bandage, that the cut surfaces were kept neatly and accurately in contact. By the second day, however, it was sufficiently evident that union of the parts was impossible, and at Dr. Ames's request I amputated by the double flap operation just above the joint. There was, as Dr. A. informed me, considerable constitutional disturbance; so much indeed as to render the result doubtful for several days; after which the progress of the case was favorable, and the parts united in a reasonable time.

Case V.—October 1st, 1841. I visited, at a distance of ten miles, a negro woman, 28 years old, who four days previously had her hand and fore arm torn and mangled in a most shocking manner, by being caught in a cotton gin. She was under the care of Dr. Roberts, in whose opinion, that amputation was necessary, as there was much swelling even above the elbow joint, and the parts below sloughing rapidly, I entirely concurred. Accordingly I amputated by the double flap operation, immediately above the elbow joint. No unfavorable symptoms supervened after the operation; those previously existing were soon relieved, and in the usual time the parts had healed.

Case VI.—October 28th, 1842. A negro woman, about 35 years of age, subject to epileptic convulsions, during an attack, fell into the fire and burned her hand and wrist

so badly that the parts were almost completely charred through.

On the 31st, I visitid her with Dr. McWhorter, and amputated by the double flap operation midway between the wrist and elbow.

She lived twelve miles from town, and Dr. McWhorter did not re-visit her till the third day after the operation, having left directions with the overseer of the plantation, in regard to her treatment. He found her laboring under tetanus, which, from what he could learn, had supervened the day before. She died the day after his visit.

Case VII.—A robust young man, about 21 years old, on the night of the 7th of August, 1843, received a charge of fifteen buck-shot from a gun, which was accidentally discharged while the muzzle was resting in his left axilla and the breech on the floor. The load passed in a mass, grazing the anterior and inferior portion of the humerus, immediately below its head, dividing the artery, veins, nerves, and other soft parts so as completely to denude the bone in that situation. He bled profusely, but the hemorrhage ceased on the supervention of extreme fainting, and the application of some masses of raw cotton to the wound by the bystanders.

Dr. Jones, who resided at a distance of about seven miles, saw him several hours after the accident, at which time he still continued extremely faint. There was neither sensation nor circulation in the arm. As the hemorrhage had not returned, the wound was not disturbed.

On the evening of the 8th, Dr. Smith who resided at a distance of fourteen miles from the patient, saw him; at this time there was incipient gangrene of the arm.

On the night of the 8th, I was requested to visit him, but as he resided some twenty-six miles from Montgomery, I did not see him till 10 o'clock on the morning of the 9th. I found him with a hot dry skin; eyes glassy and brilliant; lips pale and exsanguineous; pulse 120; countenance extremely haggard and anxious. The whole arm was a swollen livid

gangrenous mass. The skin covering the shoulder joint above, and the upper portion of the deltoid muscle only had a healthy look and feel; the parts beneath being emphysematous, even a little way above the point at which the appearance of the skin was natural. There was no line of demarcation between the diseased and the healthy parts. We concluded to amputate, as offering a desperate but only chance for life.

A little after 10 o'clock, A.M., he took 60 drops tinct. opii, and a short time before 11 o'clock 30 drops more. At 11 o'clock he was laid on the operating table on his right side, with his head and shoulders a little elevated, and supported with pillows. Dr. Smith compressed the subclavian artery with his thumb, as it passed over the first rib, while Dr. Jones supported the arm. Grasping the mass of muscle and integument covering the shoulder joint with my left hand, I passed a long straight amputating knife through from behind forward, between the acromion process and head of the humerus, cutting out as large a flap as the condition of the parts would admit. As I made the cut, several small arterial branches, near the posterior border of the axilla, threw out blood; and as it was important to economize the vital fluid as much as possible, before proceeding further, I applied ligatures to the two larger, and twisted one or two smaller ones. With a scalpel I next opened the capsular ligament divided the tendons inserted into the tuberosities of the humerus, and raised the head from the glenoid cavity. I now dissected carefully the soft parts from the anterior and axillary aspect of the bone, so as to enable me to grasp with the finger and thumb of my left hand, the mass containing the divided end of the axillary artery. Holding the artery secure in this way, I passed the knife round the head of the bone, and directed its edge downwards so as to divide the posterior border of the axilla, and the ragged remains of the anterior border, separating them clear up to the body, so that their cut edges might be on a level with the parts separated by the shot, and form together a smooth and continuous sur-

face, to be covered by the flap from above. One or two more little arterial branches bled, but were immediately tied; after which I proceeded to apply a ligature to the axillary artery, from which not a drop of blood was lost during the operation. With a pair of strong sharp scissors I cut several ragged projections of integument and muscle, which were in a gangrenous condition, from the lower part of the wound. The flap being drawn down was adapted to the raw surface, which it fitted accurately, by a few sutures and adhesive strips. Over this, lint was applied and secured by several adhesive strips.

He bore the operation with much firmness, making scarcely any complaint. At its conclusion he was much exhausted, his body being covered with perspiration, and his pulse weak, and near 160 in frequency. Frictions with dry mustard and flannel were ordered, and wine ad libitum. This, however, he took with much reluctance.

As it was important that as little blood as possible should be lost, the operation was tedious, as arteries, which, in a patient in a less exhausted condition, would have received no attention, were secured as fast as cut. The time occupied in the operation, dressing the wound, and fixing him comfortably in bed, was about 45 minutes. He lost about six ounces of blood.

He took stimulants of any kind with extreme reluctance, and though for a short time was apparently rallying, died about six hours after the operation.

Case VIII.—A stout, robust, and healthy negro man, about 25 years old, received on the 1st of September, 1843, a heavy charge of bird-shot on the posterior and outer portion of the right leg, midway between the knee and ankle. The muzzle of the gun was so close to him at the time, that the charge was not 'scattered,' but entered as it were in one mass. About an inch and a half above where the shot struck, the fibula was broken, and at the point, a large mass of muscle with its integuments, shot entirely away. About eight

days after the accident, the parts having previously swollen very much, mortification commenced in the skin and fascia, at a point between the wound and knee. The swelling of the parts and sloughing continued, and on the 15th I visited him in consultation with Dr. Shoaler, from whom I received the above history.

I found the whole mass of muscle forming the calf of the leg completely denuded of its integuments and fascia, which had sloughed away, and jutting out prominently as if protruded by something lodged beneath. The parts below were swollen and cold, and at one or two points emphysematous. The denuded muscle and cellular tissue, had in some places a sloughy appearance, and the integuments were in the same condition, on the internal surface of the limb, as high up as the inner condyle of the femur. There was much constitutional disturbance and fever, the pulse being 120 in the minute.

He had the character of being a bold, daring, and turbulent fellow, and received his wound while engaged in some rebellious conduct, in which he tried to excite the other slaves of the plantation to join him; nevertheless, at the proposition for operating, he expressed the utmost fear and horror, and actually shewed a disposition to conceal himself to avoid it.

Previous to the operation, he took about half a grain of morphine, and some brandy—of the latter he drank frequently during the time of its performance.

The circulation was arrested with a tourniquet, and the operation performed by making the flaps from the internal and external parts of the thigh, a short distance above the knee. By his struggles the tourniquet became displaced, and as I divided the parts for the internal flap, the blood gushed in a small stream from the popliteal artery; as the vessel was however immediately caught by Dr. Shoaler between his finger and thumb, scarcely any blood was lost. Before proceeding further I applied a ligature. The cellular tissue at the point between the flexor muscles had a sus-

picious appearance, and was accordingly removed with the scissors.

Though during the operation he lost but little more than a pint of blood, by the time the dressings were applied, he had sunk into a state of the most extreme collapse; being nearly speechless, with a small, quick and weak pulse, and his whole surface bathed in a profuse cold perspiration. By the assiduous use of brandy internally, and frictions with dry mustard externally, he revived.

As he lived at a distance of fifteen miles, I did not see him again, but was informed subsequently by Dr. Shoaler, that the parts sloughed near the place from which the cellular tissue had been removed with the scissors, and that secondary hemorrhage to a considerable extent supervened about the sixth day. He, however, eventually recovered.

Case IX.—Nov. 20th, 1845. I visited a negro man, 30 years old, residing about ten miles from town. Six years previous to my visit a wagon ran over his right leg, midway between the knee and ankle, producing a severe compound comminuted fracture. At the end of three years from the receipt of the injury, he was able to move about a little on the leg; but it was crooked and shortened, immensely swollen, and the soft parts unhealed. Up to the time of my visit he continued to use the leg more or less, but it caused him considerable pain and constitutional disturbance, keeping his system all the time in a febrile state. After going about on it a month or two at a time, he had generally been compelled to take his bed, and remain at rest eight or ten days at least, on account of the extreme suffering thereby produced. The soft parts have never healed.

At present, the leg is swollen to more than twice the natural size. The muscles, cellular tissue, &c., seem agglomerated into a dense mass, having a semi-cartilaginous feel. A small portion of integument and the muscles beneath, posteriorly, just below the knee, have a more healthy appearance. The part, however, is covered with large varicose veins.

There is an ulcer on the inner side of the leg, midway between the knee and ankle, larger than a man's hand, from which exudes a thin, ichorous matter in profusion.

Both the patient and his master were anxious to have the leg amputated, and at as early a period as possible; as they intended soon to remove from the State, and wished to have the parts healed before commencing the journey,

For the purpose of allaying constitutional disturbance and febrile excitement, I confined him to bed, applied emollient poultices, and administered occasionally a small dose of calomel with opium, to be followed by a mild laxative.

As the parties were urgent for the operation, somewhat against my inclination I concluded to perform it on the 29th. There still existed some feverishness of his system, and he had a slight cough, though with the stethoscope no evidences of disease of the thoracic viscera were discoverable. At the earnest solicitations of both patient and master, though contrary to my own judgment, I consented to operate below the knee.

To procure any thing like a sufficiency of even tolerably healthy integument and muscle to form a covering for the stump, I had to operate as near the joint as possible. The knife was passed behind the bones high up, and as much of the parts posteriorly as presented any approach to a healthy appearance formed into a flap. A small flap of integument was also formed anteriorly, and the bones divided immediately below the tibial insertion of the ligamentum patellæ. The artery was divided immediately below its bifurcation, consequently I applied the ligature immediately above. The *venous* hemorrhage was most profuse, in consequence of the varicose condition of the veins, and the unhealthy indurated tissue in which they were lodged, preventing their collapse. In spite of an elevated position of the stump, pressure, &c., they continued to pour forth blood so profusely from their rigid, patulous, and gaping orifices, that to prevent his dying on my hands, I had to apply ligatures to several of them.

Almost exhausted myself, and my two assistants, Mr. McWhorter and Mr. Gindeet, students of medicine, in the same condition, at the end of about an hour and a quarter from the commencent of the operation, the hemorrhage was arrested and the stump dressed.

The patient's pulse, 80 before the operation, at its close was 120, and rather weak, and his skin cool and moist, though he was much less exhausted than I expected he would have been, from the loss of blood, which must have exceeded three pints.

Though the flap was large enough, had it been more healthy, to have covered the stump, yet in consequence of its extreme rigidity, it failed to meet the integuments anteriorly by nearly an inch. Both during and after the operation, I much regretted that I had yielded to the solicitations of the parties to perform it below the knee.

Dec. 2d. Dressed the stump to-day. It has by no means a healthy appearance. The flaps will not meet, and there is a thin serous, unhealthy discharge from the wound. Pulse 110; tongue rough and dry; slight cough. ℞ Hydrarg. subm. ʒss., pulv. opii gr.iii. M. and div. in partes iv æqual. One to be taken every night and morning. Flaps to be held together by moderately drawn adhesive strips, and the stump to be kept enveloped in soft soothing poultices, which are to be frequently changed.

4th. Pulse 96; tongue less dry and rough; appearance of stump slightly improved.

7th. Being unwell myself, Mr. McWhorter, an intelligent and well read pupil, visited him, and dressed the stump, and from his report I judged that he was in rather an improving condition.

On the evening of the 8th he died. All that day he appeared as well as he had been at any time since the operation. Towards evening he complained a little of pain in his breast, made a sudden spring out of bed, and died in less than an hour—speaking no more, but requiring several per-

sons to hold him. The account of the manner in which he died, I received from his master.

Case X.—February 26th, 1844. A large and powerful negro man, 26 years old, was placed under the care of Dr. Baldwin and myself for the purpose of having his leg amputated. His master, who lived at a distance, gave us the following particulars. About eight years ago, in falling a tree, he received an injury on the anterior part of the right leg, a short distance above the ankle joint in front. The bone was not fractured, but several small pieces had at different times exfoliated, and were discharged. The wound never healed, but improved a little once or twice. On the whole, however, the general course has been from bad to worse, and there is now an open ulcer larger than a man's hand, on the anterior and external surface of the leg, above the ankle. There are no sinuses or fistulous openings leading to necrosis or caries of the bone. The whole foot, and the leg commencing about six inches below the knee, are much enlarged, being perhaps twice the size of the sound one, and have an indurated feel, not unlike that of case ix, but in a less exaggerated degree. Always after taking any unusual exercise, the limb becomes more swollen and painful; his system feverish; and he is compelled to keep his bed for several days.

In preparing him for the operation, the parts assumed an improved appearance, and after some entreaty his master gave a reluctant consent to have an effort made to cure the leg without amputating.

By constitutional remedies, the horizontal posture pretty steadily observed, and the use of bandages principally, he was discharged cured sometime in March, 1845. The cicatrix had a tender appearance, and the greater part of it was about the color of the healthy skin of a white man; no deposition of pigmentum nigrum having taken place.

On the 20th of September following his discharge, he was returned to us with his leg in about as bad a condition as

when first placed under our care, having become sore soon after his return home.

Oct. 1st. To-day I amputated, a short distance below the knee, forming a large posterior flap of integument and muscle, and a small anterior one of integument. The parts fitted accurately, and in three weeks had healed entirely; the principal part by the first intention. He returned home well in a month after the operation.

Of the ten cases of amputation above related, three, it will be seen, proved fatal, forming a proportion of one in every three and one-third cases. One died of tetanus; another under peculiar circumstances, though from what cause I will not pretend to say, as I did not examine the body after death, and received but an imperfect account of the symptoms at the time from the patient's master. The other fatal case was one in which the most sanguine could have had but a faint hope of success at the time I saw him.

I am satisfied that an aggregate of the cases of amputation from the private practice of a number of physicians, would give a much smaller proportionate mortality than the above, and that any inference drawn from the results in so small a collection would be erroneous. One fatal case in every ten would probably be nearer the truth.

March, 1846.

ART. II.—*A Case of Epilepsy in a Boy, successfully treated.* By Dr. THOMAS C. OSBORNE, of Erie, Alabama.

Servitus, a boy 5 years of age, well grown, and sprightly, was attacked with epilepsy in 1843, without any apparent cause. For more than two years the disease continued to recur periodically, and, in most instances, at the time of the full moon, though a few times at other lunar periods. Al-

ways for some days before an attack his bowels were observed to become costive, the stools being scanty, hard, and clay-colored. The paroxysms commenced before he awoke in the morning, or immediately after he rose from bed, and continued to recur regularly every two hours until night, attended by, exhaustion, and moroseness of temper. The fits lasted about one minute, and were followed by a profound sleep for half an hour, from which he uniformly awoke complaining of pain in his head. In a short time another followed, but in the intervals, he was conscious of what had occurred, and had a presentiment of what was approaching.

The phenomena frequently observed in one of the paroxysms were, lividness of the lips, pallor of the face, copious secretion of saliva, a vacant and fatuous stare, slight tremors, accelerated pulse, suspended respiration, and convulsive efforts to swallow. If sitting in a chair when a fit came on, he leaned forward, pointing his finger, as if coursing some object around the room, the agitation of his body and convulsive action of his throat being greatly increased by the erect posture. Once while thus sitting his mother spoke sharply to him, at the same time touching him on the shoulder, whereupon he started up, looked around him, drew a long breath, and complained of feeling sleepy; the fit was dispelled.

The boy had been treated by two physicians before I saw him; the first treated the case as epilepsy dependent on worms; the second regarded the liver as being in fault, and shaped the treatment accordingly. It was in April, 1845, that the case was placed under my direction. I inserted a seton in the nape of the patient's neck; and prescribed the following pill:—nitrate of silver one-fifth of a grain, extract of gentian two grains; one to be taken three times a day.

May 12th. The patient has experienced a paroxysm of the disease. I ordered the nitrate of silver to be increased to ¼th of a grain in the pill, and the pills to be continued. The magneto-electrical machine was applied, one wire to the nape of the neck, and the other carried successively over

the front of the neck, pit of the stomach, and right hypochondrium. This application was directed to be made two days preceding each change of the moon; and calomel in doses of two grains, was given morning and evening for three days previous to each such period.

June 12th. The lunar period has passed, and the boy has not been affected by one of his paroxysms. The same treatment to be continued.

July 12th. No return of the disease. Continued the treatment.

August 12th. As he remained free from all symptoms of disease, the treatment was suspended; but in September he had a recurrence of the malady, and the use of the pills and electricity was resumed.

Nov. 12th. To-day he was seized, contrary to the previous progress of his disease, between the full and last quarter of the moon. I now ordered a renewal of the seton, and that the pills should be given for a longer time before the expected paroxysm, the amount of nitrate of silver in each to be increased to one-third of a grain.

From that time to the present, a period of nearly six months, he has remained free from the complaint.

May 8th, 1846.

REVIEWS.

ART. III.—*Caloric, its Mechanical. Chemical, and Vital Agencies in the Phenomena of Nature.* By SAMUEL L. METCALFE, M.D., of Transylvania University. Two volumes, octavo. pp. 1100. London. 1843.

When estimated as an aggregate, by the value in detail of its *inherent qualties*, and by the peculiar nature of certain incidental circumstances which unite with those qualities in giving character to it, this cannot fail to be regarded, by competent judges, as one of the most extraordinary productions of the kind that has issued from the British press during the nineteenth century. Had we said, that has issued from *any press* during *any century*, whose history makes a part of recorded knowledge, it would not be easy to fasten on us the charge of either error or extravagance. We, at least, are compelled to think so, after a very careful examination of the subject. For, were we now called on, to indicate its *superior*, or even its *equal*, in most of the characteristic attributes here contemplated, we would not very promptly accept the invitation. And the ground of our hesitancy would be the difficulty of the task. In illustration and proof of this early commendation we shall offer, for the present, but a few remarks, reserving a full exposition of the subject to throw light on sundry topics designed for consideration in subsequent parts of this article.

As an *inquiry in physics*, we remember no instance, in which the work before us has been surpassed on sundry

points in *depth* and *solidily;* and we challenge refutation, when we add, that, in the *compass and grandeur of its outline, it cannot be surpassed.* Of this latter assertion, unqualified as it *is*, and tinctured with *dogmatism* as it may possibly *be deemed*, the truth is indubitable, and the reason plain.

Not content with merely accompanying astronomers in their excursions through the heavens, from satellites to planets, from planets to comets and nebulæ, from them to suns and astral systems, and to all other *visible* bodies—not content with this range through "starry space," the *inquiry* leaves far behind it not only the Newtons, Laplaces, and Herschels themselves, but also the reach of their most powerful glasses, and terminates its career only at the boundry of *material creation.* Nor do we thus express ourselves in the language of either figure or fancy, but in that of sober and unexaggerated truth. And it need hardly be added, that, to human research, the *passage* of the boundry, to which the inquiry thus extends, is irrevocably interdicted to human research, by the limited capacity of the human intellect.

But this interdict, positive and immutable as it is, imposes on the inquirer, in his philosophical investigations, no *actual privation or restraint.* Though it bars him by an outline, beyond which conjecture itself can never penetrate; yet within that line lies a field (most of it still untrodden) containing "ample room and verge enough," and enriched by a store of the choicest objects of research, sufficiently abundant, to afford endless action and enjoyment to all the most high-gifted minds and ambitious spirits, that can ever engage in the exploration and culture of it.

Of this truth no writer is more thoroughly informed than our author; nor has any one more highly and justly prized the knowledge of it, or made more earnest and persevering efforts to employ it in the production of useful results. Nor is this all that truth permits and duty impels us to say on the subject.

A mere ambition to distinguish himself in the higher walks

of physical science here referred to, is not the only aptitude to that effect which Dr. Metcalfe has manifested. Far from it. Yet it *is* an aptitude of no ordinary significancy and value; because, without *an ambition to excel*, no one will ever toil after excellence, and of course will never attain it. For it is as certainly and necessarily the product of toil, as is day-light of the presence of the solar rays, and darkness of their departure. But our author, as will hereafter more conclusively appear, has other fitnesses beside ambition. He has shown uncommon *ability* in the performance of his part, in the great enterprise of cultivating and improving the knowledge of nature, which is rapidly shedding so pre-eminent a lustre on the nineteenth century. And that ability indicates in him no less the existence of a strong, penetrating, and well disciplined intellect, than it does the possession by him of an inextinguishable thirst for knowledge, an industry in pursuit of it which never faulters, and a resolution to master it which no difficulties or privations can subdue. And such, as will be evinced, by facts to be presently adduced, are the mental characteristics he has abundantly manifested, in his laborious preparation of the work we are examining. Were we, from what we know of the history of that preparation, to attempt the composition of a motto for Dr. Metcalfe, expressive of the determination he fostered, the labors he accomplished, and the obstacles he encountered and vanquished in the course of it, we do not perceive that we could acquit ourselves better, than by recommending to his adoption the following words:—AUT VICTOR ET FAMA, AUT VICTUS ET NIHIL —for *self-sacrifice* or *success* was obviously the end he held constantly in view.

We hold it not impossible, that a few of the foregoing remarks will be regarded, by some persons, as more in the style and spirit of eulogy, than of criticism or review.—Should such be the opinion of individuals or the public; though, as far as *words* are concerned, it will be allowed to pass unnoticed; yet shall it be met and refuted by *facts*. Special references to Dr. Metcalfe's volumes will be made,

and numerous passages extracted from them, fully sustaining us, in the favorable sentiments we have expressed in relation to him.

As far as we are at prosent informed on the subject, he has taken the lead in one of the boldest projects that the votaries of *physical science* ever *have* instituted, or ever *can*—an attempt to solve at once the most recondite and momentous problem in the economy of nature. Our allusion is to the effort he has made, in the work we are examining to prove CALORIC to be what logicians term the VERA CAUSA —the *prime* and *immediate instrument* employed by the Deity, if not in the *production*, at least in the *original arrangement* and subsequent *government* of the material universe. To adopt the Doctor's own language, the more certainly and definitely to express his meaning. He has first virtually represented caloric as the only *self-moving material* substance in creation, every other sort of matter being held *motionless* either by *its own nature*, or by something tantamount to a *vis inertiæ*. Resting on this position as *a fact*, he has next attempted to prove his *self-moving* article to be the efficient and immediate source of all the "*mechanical, chemical, and vital agencies in the phenomena of nature.*" In other and perhaps more explicit and definite terms, to be the MATERIAL VICEGERANT of the Deity, in every movement that occurs in the UNIVERSE OF MATTER—whether that matter be *organized and living*, or *unorganized and dead.*

Such is our author's theory. And whether it is the pure product of reason and philosophy, or, to some extent, the creature of fancy and fiction, we may perhaps hereafter hazard an opinion. At present however we shall only say (but we say it *confidently*) that the fearless effort of the writer, which critics of a colder temperament and more cautious disposition may probably pronounce extravagant and unsafe (if not still *more condemnable*) is, in our estimation, indicative of an exceedingly rare expansion of mind and loftiness of purpose, boldness of enterprise, and sublimity of thought. And it need hardly be even surmised, much less maintainted by

argument, that, without such mental attributes, success in *new and arduous branches of knowledge* can never be achieved. For, to such achievement, ambition and enthusiasm, intrepidty and firmness of purpose are no less essential than they are to the attainment of success in any other form of enterprise, whether in civil or military life. And though we do not contend that Dr. Metcalfe has been successful in the execution of his entire scheme of inquiry, yet does truth compel us to say, that he has thrown more light on many parts of it, and treated the whole of it with more ability, than any other author, whose writings we have examined. In no ordinary degree has he thus benefitted science by his masterly effort. Nor does the benefit conferred on it by him consist alone in what he has himself performed. He has presented to the ambitious an example that will be followed. He stands therefore in the attitude, and character of a public teacher, the most valuable portion of whose instruction to the community consists in his inducing others to instruct themselves, infusing into them a spirit of emulation, and communicating to them judicious directions to that effect.

Other philosophical naturalists, therefore, awakened to action by the example of Dr. Metcalfe, will not fail to engage in the inquiry, in which he has so ably and creditably preceded them. And, whether they concur with him, or oppose him in opinion, the issue will be the same. Further light will be elicited, by their labor, and science and the interests of mankind will be subserved.

Another trait which adds not a little to the extraordinariness of the production before us is the depth of its erudition, and the immense amount of knowledge it embodies in so moderate a compass. It ranks with the most erudite works we have ever perused. Nor is the *derivative* knowledge it contains of a common order, or extracted from common sources. On the contrary, it is itself of the highest and choicest kind, and is drawn from the most substantial authorities. It is not groundless eulogy, but sober truth, to say of it, that not a little of it has descended to us from the ablest

and most highly and justly accredited authors of every civilized and enlightened country, and of every age, from the earliest era of the history of science and letters, to the present period.

It commences, as far as they are known, with the sentiments of men most noted for knowledge and wisdom among the Egyptians, Chaldeans, and primitive Jews, passes to the sages and philosophers of Greece and Rome, when they were the guiding lights of the world, and pays a due and not unprofitable regard to the few scattered and twinkling stars in the science of the Dark Ages. Commencing again with the revival of letters, the author makes deeper and more valuable draughts on those who from age to age, have written on the subject of his own researches. And it is especially at this period, in the progress of science, that his selections of knowledge begin and continue to be made with great judgment, and applied to the object he has in view with a corresponding degree of aptitude and force. He has here shown himself to be thoroughly acquainted with the writings, and their bearing on the subject of his inquiry, of Paracelsus, Van Helmont, and Stahl, comprehending as well the wild and evenscent notions, as the sound and lasting philosophy of those illustrious men. Nor is he less familiar with the works, their applications and value, of Copernicus, Galileo, Kepler, Newton, Laplace, and the Herschels in astronomy—with those on chemistry by Black, Lavoisier and Laplace, Priestley, Davy, Berzelius, Liebig, and Farraday—with those on geology by Cuvier, Lyell, and the geologists generally of Great Britain and France—with those on physiology, by Muller, Tiedemann, Magendie, and Carpenter—with those of Homer, Pindar, Virgil, Shakspeare, and Milton, in poetry—with those on mental philosophy by Locke, Brown, Gall, Spurzheim, Combe, and phrenologists in general—with those of Bacon, which embrace much of the philosophy of every department of nature—and with those of scores on scores of other authors (all of them distinguished) whose names a want of time and room forbids us to recite. And singular as it

may appear, notwithstanding the immense variety, and the difference from each other, of the subjects on which those several authors have written, and the different modes in which they have treated them, Dr. Metcalfe has extracted from each of them matter illustrative of his theory of caloric, and, as he believes and ably contends, in confirmation of its truth. Such is the plastic and assimilating power of his mind, that he derives for his theory nutriment from every department of science and letters—the writings of the apostles and prophets not excepted.

This leads us to give another very striking representation of the work we are considering. It may be regarded, much more than any other production of the sort and size we now recollect, as *an epitome of an entire library of a very elevated and rare description*—of such a library indeed as does not, we apprehend, exist in the United States. Yet, so ample are the resources, and so dextrous the management of our author, that he has reduced it, vastly diversified as it is, to what may be called (if the phrase be admissible) a *multiplex unity;* by making it all bear directly or indirectly on a single subject—*his belief in the universal agency of caloric.*

Notwithstanding, however, the large amount and manifold sorts of *derivative matter*, which our author has embodied in his work, it is not to be inferred that he has not also manifested in it much independence and *originality* of mind. Far otherwise.

It need hardly be remarked, that originality, in the examination and discussion of subjects, is of two kinds. Of these, one consists in the discovery and employment of *new facts;* and the other in the placing of *new constructions* on facts already known—or the drawing from them of *new inferences*, by means of new associations and arrangements of them.

Of his possession, to an unusual extent, of the *latter* of these forms of originality, Dr. Metcalfe has exhibited in his volumes an abundance of testimony. And we need not remark, that, in doing so, he has shown himself to be endowed

with a much higher order of talents, than he would have done, by merely giving evidence of his possession alone of the *former*. By industry, labor, and steady perseverance, a *common mind may discover and amass facts*; but nothing inferior to the mind of a *philosopher* can analyse, interpret, and classify them, and apply them to the high and important purposes, for which they may be fitted. To the simplest observer *steam* has been long known to exist, and to possess no inconsiderable power of action. But, it required the genius of a Watt or a Fulton to perceive the numerous and invaluable uses which it now subserves, and to devise and direct the means for the proper application and employment of it. School-boys had, no doubt for centuries, been in the practice of amusing themselves by the raising of kites; but it belonged to a Franklin to employ that simple piece of machinery in disarming the thunder-cloud. And instances to the same effect might be indefinitely adduced. Nor are we able to call to mind any writer who is richer in the knowledge of them, or more dextrous in the application and use of them, than Dr. Metcalfe. By such dexterity he often illustrates and strengthens momentous opinions by facts known to every one, and usually regarded as trivial and insignificant. Of this the following is an instance, which, whether conclusive or not, bespeaks a mind abounding at once in ingenuity and resources.

The Doctor contends that caloric is the immediate and efficient cause of every form of attraction—centripetal, cohesive, chemical, and vital. And he thus applies it to account for that of cohesion.

Between the particles of *dry* pulverized earthy matter, whether silicious, aluminous, calcarious, or of any orher description, there exists no attraction. Hence dry weather and dusty roads are inseparable concomitants. But a fall of rain or a dash of water in any other way produces in the condition of things an entire change. Immediately the attraction of cohesion binds together the *wetted mass;* and, instead of continuing dusty, the roads become muddy. In other words,

their surface becomes adhesive and tough. And, without expounding his scheme of reasoning on the subject, we shall simply observe, that, in perfect conformity to his general doctrine, and with no little address and ingenuity, Dr. Metcalfe attributes the change to the action of caloric. And, on the same principle does he explain the well known *fact*, that *hot water* penetrates and softens substances, and dissolves all such as are soluble in it, much more speedily and completely, and also in larger quantities than *cold* water. The solution is attributable to the attraction of caloric for the substance dissolved.

There is attached to Dr. Metcalfe's work another peculiarity, which adds not a little to the extraordinariness of its character, and the interest it is calculated to excite, especially in the West. And not in the West alone, but throughout the whole of the United States. We allude to the history of its authorship, which, in some of its elements, is all but romantic.

Dr. Metcalfe is a native of Kentucky, where he was born and received the rudiments of his education, before that State had completely shuffled off the sobriquet of 'Back-woods;' when schools of learning there were but little else than a name; and when, in the entire region, there existed nothing that could be called a library, and but few readers of such books as could be found—when in fact the buffalo, the bear, and the Indian had not yet entirely retreated before the hardy hunters of the frontier.

Notwithstanding this want of instruction, example, and other incentives to awaken it, our author exhibited, from his boyhood, a taste for letters. In testimony of this, and as the fruit of it, he wrote and published, when but a youth, a sketch of the life and adventures of that prince of pioneers and rangers, Daniel Boone. And though that production manifests something of the *germ of scholarship* and *Belles Lettres*, yet may it be stated with sufficient correctness, that nearly the whole of those accomplishments, as a

writer, for which he is now so conspicuous, is the product exclusively of his subsequent labors.

The Doctor, as the title-page of his volumes shows, was graduated in medicine in the Medical Department of Transylvania University. He received his degree in that institution, in the spring of 1822 or 1823, and soon afterward removed to the State (*Territory* we believe at the time) of Mississippi, where he married, and, for several years, pursued industriously and successfully a professional life. But he was never, as we have been informed, content with his situation and prospects in that place, chiefly because his opportunity for the cultivation of the branch of science, in which he most delighted, was very limited and unpromising. Accordingly, on the death of his wife, which occurred a few years after his marriage, he abandoned his establishment in the south, and removed to the city of New York, in the hope of being able there to prosecute his favorite study, with the aid of all requisite advantages, to the completion of his design. But he found in a short time that he was mistaken, the libraries of that city being insufficient for his purpose, on account of not containing many of the works which it was necessary for him to consult. Having remained there, for a few years, and published a pamphlet on Caloric disclosing the nucleus of his views respecting its agencies in the economy of nature, he sailed for England, we believe, in the year 1835, to continue in London, aided by the libraries and other resources of that metropolis, his inquiries into the same subject.

As matters eventuated, that may be regarded as the boldest movement of his life, and the most striking feature in the history of his researches. Without the slightest indulgence in a spirit of exaggeration or undue compliment to our author, it may be compared to the course adopted and pursued, in quest of knowledge, by Pythagoras, Thales, Plato, Hippocrates, and other philosophers and sages of Greece; when they visited for that purpose Egypt, and other enlightened portions

of the East, and long remained in them for the completion of their designs. Like them Dr. Metcalfe visited foreign countries, because they opened to him sources of knowledge far superior to those he could have access to at home, and actually remained there a *self-expatriated* sojourner, for the protracted period of *ten years.* Nor did he thus virtually exile himself for the enjoyment of what the world calls pleasure and amusement—except that he converted into sources of such enjoyment, his *researches and studies*, which, to ninety-nine persons out of every hundred, would have been *serious* and very *unwelcome labor.* He experienced, moreover, during his long residence abroad, inconveniences and evils other than those of mere expatriation. It is no *disparagement* to him, but the *reverse*, to say (and it may be truly and emphatically said) that he perseveringly adhered to his resolution and labors, amidst occasional pecuniary embarrassments and wants, to which, without incurring degradation, the concomitant of irresoluteness and pusillanimity, or the slightest charge of a deficiency of manliness, the stoutest and hardiest spirit might have yielded. But he determinately met and vanquished all the difficulties that lay in his path, finished his task, and returned to his native country, bearing on his brows, in no ordinary degree both rich and rare, the bays of victory, bestowed by foreigners. For foreigners have not withheld from the product of his labors an abundant tribute of approbation and praise. Much more therefore should that production receive, from the justice of his countrymen, the reward to which it is so eminently entitled.

Such then is the work of Dr. Metcalfe, hastily and somewhat desultorily described—and such a few of the reasons why we have pronounced it an "extraordinary production." And we cannot here refrain from repeating, what we have already less confidently intimated, that none but the high qualities of mind and spirit, which our author exhibited, during the entire period of his scientific enterprise, could have borne him successfully and triumphantly through it. We

wish it however to be distinctly understood, that by the term "*triumphantly*" we do not mean to express our entire concurrence with the Doctor, in all his opinions. Our design is only to record by it our admiration of the mental ability and heroic spirit displayed by him, in the midst of sacrifices, difficulties, and privations, with which nothing but an instinctive and confident anticipation of success could have induced him so long and laboriously to contend. For it may be reduced to an axiom, that no person *will* so contend, except, as the result of a deliberate examination of his powers and qualifications, he feels in himself a fitness to succeed.—But, in justice to Dr. Metcalfe, as well as to our readers, we must now permit his volumes to speak for themselves. And this we shall do, by first stating the point or points which the Doctor proposes to prove, and then giving, in his own words, his matter of proof.

He commences his work by an interesting representation of the views of certain distinguished philosophers of antiquity, respecting the nature of *elementary fire*, which was no doubt identical with our *modern caloric*. He alleges that, as evidenced by the terms employed by them, in expressing their conceptions of it, they regarded it as a substance of an etherial and highly sublimated and refined, if not of an actually *spiritual nature*. Of course they must have attributed to it great power and efficiency of action. But he does not tell us precisely what this action was.

His next step is an attempt to prove, in opposition to the hypothesis of Lord Bacon, Sir H. Davy, Count Rumford, and others, that caloric, instead of consisting in *mere motion*, is a distinct substantive form of imponderable matter, possessing, as already stated, powers of action next in order and standing to Omnipotence itself. In his attempt to establish the *materiality* of caloric, and its independence of every other kind of matter, we think him as successful as *facts* can render him. A summary of his leading arguments is as follows:

"1. That it may be added to and subtracted from other bodies, and measured with mathematical precision, as all good thermometers demonstrate:—

"2. That it augments the volume of bodies, which are again reduced in size by its abstraction:—

"3. That it modifies the forms, properties, and conditions of all other bodies, in an endless variety of ways:—

"4. That it passes by radiation through the most perfect vacuum that can be formed by means of the air pump, in which it produces the same effects on the thermometer as in atmosphere:—

"5. That it exerts mechanical and chemical forces which nothing can restrain, as in volcanos, the explosion of gunpowder and other fulminating compounds:—

"6. That it operates in a sensible manner on the nervous system, producing intense pain, and disorganization of the tissues when in excess.

"But if caloric were a mere property or quality, how could it be taken from one body and added to another? Or if it augment the volume of other bodies, must it not itself have volume, occupy space, and therefore be a material agent? Would it not be mere jargon to speak of the radiation, reflexion, convection, and conduction of a mere quality, or immaterial property? And if caloric were only the effect of vibratory motion among the particles of ponderable matter, how could it radiate from hot bodies without the simultaneous transition of the vibrating particles? But it is certain that when iron, copper, and other metals are heated to any temperature below the point of ignition; like boiling water, they give off caloric freely, without any sensible loss of ponderable matter."

Another extract containing a breviat of Dr. Metcalfe's views of the power and general agency of caloric in the material universe, we recommend to the reader, as worthy of all the attention and reflection he can bestow on it. And, if he be not prepared or inclined to comply with our recommendation, our next advice to him is, not to read it at all. A *common-place* perusal of it will be useless.

"Having thus proved that caloric is a material agent, I now proceed to show that it is a self-active principle, capable of moving itself, and of generating motion in all other

bodies. The cardinal facts which connect its agency with the general theory of physics, may be reduced to the following propositions:

"1. That the activity or moving power of all bodies, is directly in proportion to the amount of caloric around their particles:—

"2. That all molecular motions, whether centrifugal or centripetal, may be resolved into the law by which caloric repels its own particles, and attracts those of ponderable matter, with forces that vary inversely as the squares of the distance:—

"3. That the quantity of motion in the world, whether mechanical, chemical, or vital, is in proportion to the mean temperature of different latitudes, ceteris paribus, and diminishes from the equator to the poles:—

"4. That the centrifugal force by which planets are impelled through their orbits, is directly in proportion to the heating power of the sun; and like gravitation, is inversely as the squares of the distance:—

"5. That the aggregate vital energy of animals, and the development of their organization, are exactly in proportion to the amount of caloric obtained by respiration, and combined with their tissues:—

"6. That every variety of electricity is convertible into caloric, and the latter again into electricity; consequently, that they are modifications of one and same principle:—

"7. That the directive power of the compass needle diminishes from the isothermal equator to the points of lowest mean temperature, which are the magnetic poles; and that all its variations correspond with the variations of terrestrial temperature:—

"8. That caloric is the active principle in light, whether radiated from the sun, or generated by ordinary combustion, friction, percussion, phosphorescence, or the electric discharge.

"That caloric is a self-active principle, might naturally be inferred from the fact, that every change in the temperature of bodies is attended with motion among their particles. It has also the power of moving from one place to another, and even through the vacuum of an air pump, without any projectile impulse from the particles of ponderable matter; as when it radiates from hot bodies. And that it has the faculty of generating motion among the particles of other matter, would appear from all the phenomena of nature with which we are best acquainted.

"For example, under the ordinary pressure of the atmosphere, and at, or a little below the temperature of 32°, the particles of water exist in the solid and apparently fixed state. But if 140° of caloric be added, their mobility is so far increased that they glide freely over one another, and assume the fluid form. If more be added, their activity is still further augmented by every degree of temperature, up to the boiling point, when the whole is found to be in a state of rapid intestine motion. And if at this stage of the experiment, the water be kept over a furnace, until it has received about 1000° more of caloric, the boiling liquid is converted into steam, the moving force of which is exalted by every addition of this active principle, which has the power of converting all other bodies from solids into liquids, vapors, gases, and flame, or luminous incandescent particles."

Were we about to invite the truly philosophical mind to an intellectual banquet of the highest order, we could not perhaps better accomplish our purposes, than by recommending to it a careful perusal—not to say *study* of every paragraph, from page 12 to the close of this chapter, which ends at the bottom of page 46. Although the pages referred to are interspersed with a few sentiments, in whose correctness we cannot concur—that is a consideration to which, at the present moment, we attach no weight. We are now speaking of *manner* and *character*, rather than of matter. And so able is the discussion involved in our recommendation, that it cannot fail to command the admiration of every enlightened and unprejudiced judge, by whom it may be examined.

The next topic, to which we shall specially invite the attention of the reader, is our author's attempt to prove the identity of caloric and atmospheric electricity. To the discussion of that point he has devoted an entire chapter (the *first* of his *third* book) and it is among the most able and interesting that his work contains. Still however is it here and there dotted with a few obscure spots (*rari nantes in gurgite vasto*) which, though *analogy* may sustain them, require a stronger and clearer light, united to the *direct* influence of additional *facts*, to identify them completely with truth and science.

It would be exceedingly gratifying to us to present to our readers an epitome of this chapter, were the end attainable. But it is not; because the chapter is itself an epitome of a large mass of matter, which cannot, as it appears to us, by either compression or abstraction, be any further condensed.

To communicate to our readers therefore some knowledge of the character of the chapter, the most suitable expedient we can adopt will be, to lay before them a few extracts bearing more or less directly on its leading purport—to show the *simplicity* at least, if not the *unity* of the source of action, in the seeming *multiplicity* and *complexity* of the economy of nature. The following extract will illustrate our meaning:

"The more profoundly we scrutinize her operations, the more we discover of simplicity and unity of power amidst all her diversified movements and transformations. Who could have suspected without a general survey of the widely extended provinces of nature, that the aggregation of liquids into spherical drops, and their adhesion to solids, are resolvable into the same power that determines the solidity of and rotundity of the earth?—which causes rain to descend from on high, rivers to flow towards the sea, and planets to revolve around the sun?—yet these various movements were traced by Newton to one and the same law.

"What can be more unlike to the mass of mankind, than the opposite forces of attraction and repulsion, contraction and expansion? Yet I have proved that they are both produced by one and the same agent; which in certain proportions binds the atoms of ponderable matter together, as in cohesion and chemical union; while in other proportions it diminishes or destroys their cohesion, as in liquefaction, vaporization, combustion, &c., by which the forms, properties, and powers of all bodies are perpetually changed."

* * * * * * *

"If, then, caloric be a universal principle of action in nature, and immediately connected with all the phenomena of motion, what is electricity? Is it a distinct fluid, *sui generis?* or is it a modification of the igneous principle? These questions, so intimately connected with the whole theory of physics, have never yet been satisfactorily answered. If electricity were the generic moving power of nature, it ought to be

every where present. But so far is this from being the fact, that it is only under peculiar circumstances that it is developed so as to be appreciable by the senses; whereas, it is impossible to realize the absence of heat, which is indispensable to all the phenomena of climate, season, the growth of vegetation, and the life of nature."

In the course of his remarks on the subject, our author shows (what nobody indeed denies or doubts) that caloric is the immediate cause of evaporation; because, other things being alike, in proportion to the amount of *sensible caloric* (constituting *temperature*) in any place, is the amount of vapor produced—that wherever there is *evaporation*, *there* is also *electricity;* and, other things being equal, the quantity of the latter is in direct proportion to that of the former.

As clouds are the product of evaporation, and contain a large amount of latent caloric, the lightning which bursts from them is nothing but a stream or ball of condensed caloric in rapid motion.

In tropical climates there is more caloric, evaporation, and rain, than in temperate ones; and proportionally more of lightning and thunder.

In temperate climates caloric (temperature) evaporation, and lightning superabound alike in summer, and decline alike in autumn and winter. And, in polar climates, they are proportionately wanting throughout the year.

Caloric and lightning are identical in their action in melting metals, setting fire to combustibles, and producing flame.

During thunder-storms an abundant discharge of lightning is known to be, as a *general* if not an *unfailing* occurrence, followed by an abundant precipitation of rain. The cause is obvious. The lightning is a modification of the caloric which suspended the water of the cloud in a state of vapor; and, the suspending agent being suddenly discharged, in the form of lightning, the vapor it had produced and upheld is immediately condensed into water, and descends to the earth, in the form of rain. Our author's views on these points we shall submit to our readers in his own words.

"The cardinal facts which connect the phenomena of lightning with the theory of rain, may be reduced to the following propositions:

"1. In the torrid zone, where evaporation and rain are most copious, the amount of lightning is greatest. There is also far more during summer than winter in the middle latitudes, and scarcely any in the polar regions.

"2. In those parts of the world where there is no rain, there is no lightning, as at Lima in Peru; nor is there any in Egypt, Palestine, and other parts of the world during the prevalence of dry weather. It therefore follows,

"3. That where there is no condensation of aqueous vapor, there is no lightning.

"The most superficial observers of nature have been impressed with the immediate connexion between lightning, intense heat, and rapid precipitations of rain. By a careful analysis of the phenomena it becomes self-evident, that if caloric be the true and only cause of evaporation, its condensation and precipitation can be effected only by the evolution of the same agent.. During winter, the quantity and elastic force of vapor in the atmosphere are comparatively low in the middle latitudes, where it is condensed gradually on meeting with colder air. During spring, evaporation augments with increase of temperature, when masses of warm and cold air often meet, causing frequent showers of rain, and sometimes hail; still without much thunder and lightning. But during summer, when the temperature becomes tropical, and the atmosphere saturated with highly elastic vapor, we have tremendous explosions of thunder and lightning, with rapid precipitations of rain and hail. Corresponding with the temperature of the torrid zone, and the amount of evaporation, thunder storms occur almost daily during the rainy season, on the coasts of India and S. America."

We shall here extract a passage to show the accuracy and ability of Dr. Metcalfe, as a logician, no less than his soundness and depth as a philosopher. For, though he never deals in the technicalities of syllogism, there runs through his writings a closeness and strength of reason and argument, but rarely found in physical productions. His logic, when he resorts to it, is as solid and impenetrable, as that of Crawford in his celebrated treatise on the subject of phlogiston—or as

that of the well-known logical treatise of Blane, the precise title of which we do not, at this moment, remember.

The passage we are about to quote contains Sir John Herschel's celebrated and well-founded rules for detecting the *common cause* of a large mass of unclassified facts, and our author's matter of proof that he has conformed to them, in his inquiry into the identity of electricity and caloric. The rules are as follows:

"1. Invariable connexion of the cause and effect, unless prevented by some counteracting cause.

"2. Invariable negation of the effect, with absence of the cause, unless some other cause be capable of producing the same effect.

"3. Increase or diminution of the effect, with the increased or diminished intensity of the cause in cases which admit of increase and diminution.

"4. Proportionality of the effect to its cause in all cases of *direct unimpeded* action.

"5. Reversal of the effect with that of the cause. He adds, that we are not to deny the existence of a cause in favor of which we have a unanimous agreement of strong analogies, though it may not be apparent how such a cause produces the effect.

"The above general rules apply with great force to the connexion between temperature and the phenomena of lightning.

"1. It has been shewn, in accordance with the first rule, that a certain range of solar *temperature* is indispensable to the existence of *lightning*, which are therefore invariably connected together as antecedent and consequence, or cause and effect.

"2. It has also been shewn, in conformity with the second rule, that in the absence of condensation and precipitation of vapor there is no lightning:

"3. That other things being equal, the amount of evaporation, condensation, and lightning, are increased and diminished with the augmentation and decrease of temperature.

"4. That the quantity and splendor of this wonderful meteor are proportional to the accumulation and intensity of solar heat, from the equator to the poles—and

"5. That the effect is *reversed* on passing from the regions

of perpetual cold to the torrid zone, and from winter to summer.

"In reference to the 3d and 4th rules it may be observed, that the quantity of precipitation and lightning are greatly diminished, *cæteris paribus*, by *uniformity of temperature*, as in the tropical portions of the sea far from land, and other parts of the world where the winds blow long in one direction; whereas changes of temperature are indispensable to the condensation of atmospheric vapor, and to the evolution of its caloric in the concentrated form of lightning."

We shall here mention, as an insulated fact, that our author often embodies in his foot-notes some of the most curious and interesting statements, and valuable expositions that are contained in his work. As a brief specimen of them we extract the following, which, by a simple analysis, whose subject is more or less familiar to every one, demonstrates the vast agency which caloric holds, and the stupendous power it exerts in the economy of our globe.

"It has been estimated by geographers, that about thirty-three cubic miles of water are discharged daily into the sea by all the rivers of the earth. So that if this calculation be correct, or even an approximation to the truth; and if the same proportion of rain falls into the sea as on a given area of dry land, it follows that nearly 140 cubic miles of water must be carried into the atmosphere every twenty-four hours, and again precipitated in the form of rain and snow. Such are the vast forces which caloric is continually exerting in the phenomena of meteorology, without any reference to those violent commotions of the atmosphere termed hurricanes, tornadoes, and other less impetuous winds. Nor is it unworthy of passing notice; that as the quantity of water diffused through the atmosphere is in proportion to the heating power of the sun, the barometer stands higher, on an average, within the tropics than in the middle or polar latitudes; as proved by the observations of Erman, laid before the French Academy of Sciences,—after my chapter on the barometer had been printed. More water is also converted into steam during the heat of the day, and more steam is condensed into water during the coldness of night, which is the most convenient period for rain, as it does not then impede the labors of husbandry."

The only other portion of Dr. Metcalfe's volumes which we can notice at present, is that in which he treats of the "*Influence of climate and season on the physical, intellectual and moral character of the human race, as shown by the difference of stature, magnitude of the chest, configuration of the brain, complexion, &c., among the various nations of the earth;*" constituting one of the most interesting, instructive and practically important sections of his work. And though we do not concur with him, in every element of the doctrine he maintains on the subject, yet does truth compel us to say, that he has handled it with more ability, than any other author whose writings we have perused. Unquestionably he has collected and embodied in it a greater amount of appropriate and illustrative matter, than we have ever previously witnessed within so limited a compass. And he has ascribed the whole scheme of operation which his remarks embrace, directly or indirectly, to the agency of caloric. That substance is, in his opinion, second only to OMNIPOTENCE itself, in the creation of hot, temperate, and cold climates—and in supplying them respectively with fertilizing rains, bringing down on them blighting frost and snow, or in parching them with drought and entailing on them sterility. Caloric is also, if not the immediate, at least the remote agent in the formation, *geologically*, as well as *meteorologically*, of the difference between a productive and a sterile soil. It is likewise chiefly instrumental in the prodcution of the diversified localities of mountain, hill, plain, and valley. Climate, locality, and soil create and maintain the immense varieties of the animal and vegetable tribes that people the earth. And they again contribute in no small degree to the differences in the aspect, and constitution, condition and general character of MAN. And HE, by his powers and long continued industry in agriculture and other pursuits, changes materially some of the leading elements of *climate itself*, and of course its influence on living matter of every description—*himself* not excepted. The climate of the West and South of Europe is by no means what it was ten centuries ago,

when it was overshadowed by forests, and covered only by the *native* productions of its uncultivated soil. We are taught to believe by records, whose correctness we have no reason to queston, that the climates of Italy, Germany, and Great Britain are far different now, from what they were at the commencement of the christian era. So, as we are assured, is the climate of Palestine and of the regions adjacent to it. And, though we have no historical records positively to instruct us respecting it, yet, for a man of intelligence who has reflected on the subject, to believe that the climate of China is not changed in two or three thousand years, by the various *influences* of near half a million of millions of resident human beings, and those of their concomitances and appurtenances, is absolutely impossible. Even, in the United States, the climate has undergone no very slight change, since the country was first visited by the Cavaliers and the Pilgrims. Nor is it easy to believe, that in the days of its power and glory, both intellectual and corporeal, even the land of the Nile and the Pharoahs experienced the same arid, adust, and sand-storm atmosphere and its concomitants that inflict on it the numerous evils of climate which it suffers at present. And all those mutations, whether for better or worse, our author, we repeat, imputes to corresponding mutations in the agencies of caloric. Some of the statistical results of climate, which he specifies, are memorable and momentous. His purpose in them is to prove the life-giving and life-sustaining agency of caloric. The following extract contains some of the principal facts which he adduces—and they are exceedingly significant, and favorable to some of the principles of his theory.

"But as all animals are nourished by plants, or by animals that have lived on plants, it is clear that the capacity of any country to support a numerous and wealthy population, must depend chiefly on climate. For example, throughout the whole of Asia and North America, above latitude 50°, the mean annual temperature is below 52°, and the growth of vegetation is arrested for ten or eleven months in the year,

while in the coldest places (which are the foci of magnetic power), it falls 60° and 70° below 0° during winter. The consequence of which is, that in the vast regions of Siberia, embracing an area of 4,010 000 square miles, the number of inhabitants does not exceed 3,600,000 who, from the nature of the climate, are compelled to obtain a miserable subsistence by fishing and hunting.

"In the still more desolate regions of British and Russian America, on a territory of 3,650.000 square miles, the native population does not exceed 200,000, who live mostly in snow huts, clothed with skins, and nourished by animals, obtained chiefly from the sea. Without agriculture, commerce, manufactures, or the possibility of uniting together under regular forms of government, they are reduced to a state of complete barbarism; and, like the scattered tribes of northern Asia, are mere dwarfs in stature as in mind.

"And if we pass to the elevated plains of ancient Scythia, in central Asia, where the climate is colder than any part of the northern hemisphere in the same latitudes, where bleak northerly winds prevail for eight or nine months in the year, the growth of vegetation is always imperfect; and according to Balbi, on a territory of 4,250,000 square miles, the number of inhabitants does not exceed 30,000,000, who for the most part lead a wandering or nomadic life, and have never made any considerable progress in civilization, science, literature, and the arts, if we except the brutal art of war; so that if we include the whole of North America above latitude, 50°, and of Asia above 40°, the population is only about 33,800,000, on a territory of nearly 12,000,000 square miles.

"But in the warm and temperate latitudes of Asia, south of latitude 40°, where the growth of vegetation continues from six months, as in the north of China, to ten months, and even the whole year, in the southern portions of the continent, the population is about 400,000,000, on a territory of 6,450.000 square miles. In India, it is 140 000,000 on an area of 1,200,000 square miles; while in China alone, between latitude 20° and 40°, it is about 200,000,000, making an aggregate of 340,000,000 on a territory of 2,840,000 square miles. From which it may be shown by calculation that if the climate of northern Asia and America were equally favorable, they might support a population of more than 1,400,000,000 on a territory of 12,000 000 square miles; whereas it is only 33,800 000. And what is their rank in the scale of intellectual and moral enjoyment?

"If we pass to the warm and temperate latitudes of Europe, where the growth of vegetation continues from six to ten months in the year, and the inhabitants are seldom pinched with extreme cold, or exhausted by excessive heat, the population is about 170,000,000, on a territory of 1,425,000 square miles. In the United States, the climate and soil of which are equally genial and fruitful, there is a territory of 2,300,000 square miles, with a population of 17,000,000; which, should it go on doubling every thirty-six years, will be 150,000,000 in another century. And if the period of doubling be then fifty years, it will be 600,000,000 in another century. Nor can there be a reasonable doubt, that improvements in science, agriculture, the arts, and the adoption of a chiefly vegetable diet, will afford the means of supporting in comfort a much greater population to the square mile, than has ever yet existed in any part of the world. And should the colonies of Great Britain, now pouring into many of the best portions of the earth, continue to multiply as at present, the language, civilization, intelligence, wealth, and growing prosperity of the Anglo-Saxons must ultimately prevail in every quarter of the habitable globe."

That all other things being alike, the temperature of a warm or even of a *hot* climate is most favorable to the production and multiplication of every form of *living organized matter*, man himself included, is perhaps true. But that it is most favorable to the highest and most efficient development and constitution of man, is not true. To that a more temperate climate is better adapted. We are inclined to believe that the salubrious places, insular and continental, in and around the Mediterranean, especially Greece and Italy—to which may be added, in other latitudes, Ireland and England, have been more productive of human greatness, than any other parts of Europe. Our reference is to the frequent production of a high order of both mind and body—but peculiarly of the latter. But we *know* them to be equalled, and we believe *surpassed* in their fruitfulness, in that respect, by a large tract of the United States. We allude to the entire hill and mountain region throughout the Union, but more particularly in Virginia and North Carolina. We have long

believed, and often asserted, that, be the immediate cause what it may, the finest specimen of the human race, *as a community*, we have ever visited, is found in the hill and mountain counties of *central* Virginia. We have also seen some rare samples of the excellence of all the higher qualities of man among the inhabitants of the hills and steeps of Vermont—though the winter climate of that region is very severe, and the summer heat, for a time, exceedingly intense.

It is not therefore so much the occasional *extremity* of the temperature of climate, as it is its *long continuance* that prevents, in the human system, that perfection which it might otherwise attain. So resilient and recuperative is the constitution of man, that, though somewhat unstrung and debilitated in this country, by the burning heats of June, July, and August, it regains its tone and strength, under the congenial and friendly temperature of the other nine months. Hence, notwithstanding the high and relaxing temperature of our summer atmosphere, man attains to as much perfection, in the United States, as in any other portion of the globe. And though Americans themselves have *sometimes doubted*, and the people of certain European countries positively *denied* this truth, facts have already occurred and are still daily accumulating, which will not fail to convince them in common of the palpableness of their mistake, and completely vindicate the reputation of the United States from the groundless and disparaging charge of being the birth-place of any sort or degree of human inferiority.

Another bold and startling opinion of Dr. Metcalfe is, that light is not an independent form of imponderable matter, and does not radiate in that character from the sun. But, that it is the product of various sorts—indeed of all sorts of ponderable matter *dissolved in caloric*, or at least thrown by that agent into a state of flame or incandescence. Yet, extraordinary and improbable as, on first thought, that opinion will be generally held, it is strongly supported by multitudes of facts. Of these facts one class is, that, when in a

state of combustion, different substances produce light of different colors—white, blue, red, green, yellow, and violet, as may be easily demonstrated by well-known experiments.—Nor can a doubt be entertained, that each color depends on some peculiarity in the combustible which emits it. Nearly the whole of many sorts of matter moreover, when consumed by combustion, is dissipated in the form of light. The light of flame is nothing but combustible and, of course, ponderable matter, volatilized and powerfully acted on by caloric. But, that our author's opinion may be fairly judged of, we shall, in justice to him, adduce his reasons for it, in his own words.

"That every description of ponderable matter is actually convertible into light by a sufficiently intense heat, or by electricity, will appear from the following undeniable facts:

"1. That the quantity of light generated by ordinary combustion, friction, or percussion, is always in proportion to the rapidity with which ponderable matter is ignited and volatilized.

"2. That the color of light thus produced always depends on the species of matter employed.

"3. That the electric spark (like that produced by the collision of flint and steel) consists of exceedingly minute portions of ponderable matter in a state of incandescence, as will be shown hereafter by the decisive and beautiful experiments of Fusinieri.

"4. That when the electric fluid is transmitted through the vacuum of an air pump, little or no light is produced, as proved by the experiments of De Luc, and afterwards by those of Sir H. Davy.

"5. That the most intense heat of a voltaic battery never produces any light, except when acting on ponderable matter; consequently, that light and heat are not identical, as maintained by some modern theorists; and that neither of them is generated by the mere vibrations of an æthereal medium."

The following portion of one of our author's foot-notes, we deem too interesting and important to be omitted in our reference to this topic.

"That caloric is a constituent of light, (as it is of all other bodies,) and is the active principle in its generation, is evident from the fact, that the most refractory gems and metals are transformed into luminous incandescent particles by a sufficiently intense heat, definite measures of which are required to produce the effect on different species of matter. It has also been proved by the experiments of Hulme, Dessaignes, Macartney, and others, that every species of phosphorescence is promoted (for a time) by moderate heat, and always extinguished by the coldness of freezing mixtures; while others have found that the light of luminiferous insects is much greater in vessels of oxygen gas than in common air. But that caloric is a distinct essence, and may exist independent of light, is manifest from the fact, that it converts solids into liquids, vapors, and gases, in the midst of perfect darkness; while it radiates from the earth during night, as it does from boiling liquids and other hot bodies, without being attended with any light."

In confirmation of part of this note, we shall add, that we have repeatedly read common sized and even small print, at night, by the light of half a dozen of large West India fire-flies, placed in a vial filled with oxygen gas. When placed in a vial filled with atmospheric air, those insects are much less luminous—though still much more luminous than the common fire-fly of the United States.

But although we have hardly yet commenced what can be correctly called a review of Dr. Metcalfe's volumes, we must notwithstanding hasten to bring our article to a close. To prepare, *in any compass* of letter-press, a competent review of such a work, is a task second in difficuly only to that of composing the work itself. And to perform such a task, in the compass of twenty, thirty, or forty pages, would be even more difficult, in some respects, than the composition of the original production. The reason is plain. To review satisfactorily is to judge and analyze severely the published thoughts and purposes of the author whose writings are reviewed, and to draw from them and commit to paper, in a generalized and compressed, but perfectly lucid and intelligible form, the characteristic substance of the matter they in-

volve. And no one who has had the least experience in it can be ignorant that the process of generalization and compression of intellectual matter is far the most arduous labor a writer can encounter. A fitness for its performance requires at once a degree of concentrativeness and a power of analysis, which few minds possess.

As our author's volumes however cover two branches, distinct from each other—the *phenomena* and *operations* of caloric in the department of *inorganic* and *dead*—and the same in that of *organized* and *living* matter, we at first indulged the hope of being able to finish, in the present article, all we might hold it requisite to say respecting the former branch. And, should it be deemed expedient to introduce the subject again to the readers of this Journal, it was our design, in that case, in a subsequent article, to treat exclusively of the latter branch, which occupies the fourth, fifth, and sixth books, constituting more than half of the work before us, and will be generally regarded as the most interesting and important portion of it.

We regret, however, to find ourselves entirely disappointed in our hopes respecting the branch of our subject, which relates to the agency of caloric in the operations of inorganic matter. So spacious is that field, and so abundant and diversified the matter it contains, and the phenomena it exhibits, that we have been able to traverse and examine, in this article, but a moderate portion of it. That section of it moreover which is characterized by the most sublime displays of power and grandeur is nearly untouched by us. We allude to the magnificent representation which our author has given of the agency of caloric, in the production of earth-quakes and volcanic eruptions, with their concomitants and consequences, the upheaving or depression of large portions of continents, the creation and destruction of islands and mountains, and in its operations as the immediate source of the centripetal and centrifugal forces, to which we are indebted for the glorious pageant of the play in their orbits of not only the planets and satellites of the solar system, but of the

entire host of heavenly bodies, through the whole scope of material creation. And superlatively extravagant or altogether groundless as that theory may perhaps be deemed by persons who have never studied, and therefore do not understand it (*ignorance* being *ten times* the cause of opposition to new doctrines where *knowledge* is *once*) Dr. Metcalfe has treated it so ably and brought to bear on it so many illustrative facts and analogies, as to render it not only worthy of the attention of enlightened philosophical inquirers, but a source of no ordinary degree of pleasure and instruction to them.

Not only does the perusal of the pages of our author's work, in which it is expounded, communicate knowledge itself; by the agreeable and peculiar exercise it affords, it excites, expands, and strengthens the mind, and throws it into a state of higher and more effective preparation for the reception of knowledge from other quarters.

We regret however the less, not having been able to give, in this article, a more comprehensive view of Dr. Metcalfe's work, as we are gratified to learn, and to be authorized to announce to the public, that an edition of it will be issued in a short time from the American press. And we hope the edition will be a large one, and would even counsel to that effect, that the countrymen of the author may be permitted to manifest, on an extensive scale, by an extensive purchase of it, their anxiety to peruse it, and the high estimation in which they hold it, in anticipation, *as an American production.* And we venture confidently to promise them, that no sooner shall they have made themselves familiar with its contents, than its *mere Americanism* will be thrown into shade, by its other higher and more valuable qualities.

One of the peculiar characteristics of our author, as a writer, is his never-ending solicitude to detect and comprehend the *causes* of things. The oft-quoted line of the poet,

"*Felix qui potuit rerum cognoscere causes,*"

seems never for a moment to escape from his memory. And

by that recollection, and his constant endeavor to realize it in himself, he proves that he is actuated by the true spirit of philosophy. For so far as an inquirer applies himself to an investigation of causes and their connexion with effects, he acts, whether successfully or not, the part of a philosopher. And, in the work we are examining, Dr. Metcalfe has pursued that practice to an extent, to which we do not, at this moment, remember a parallel. So true is this, that he seems to have adopted, as a rule of self-government, never to incur the charge preferred by Lord Bacon against the philosophers of his time, and those who had preceded him, that, in their investigations, the most important facts connected with the fundamental constitution of nature had been overlooked by them; such as the "*cause of heat and light, weight and density, hardness and softness, solidity and fluidity, fomentation and putrefaction, germination and organization.*"

These are indeed facts and considerations of the utmost importance in the fundamental constitution of nature, with the causes of which philosophers should at least very strenuously endeavor to attain an acquaintance. And if they fail thus to 'endeavor,' they are so far wanting in the attributes of their calling, and incur the forfeiture of a corresponding portion of the proud title to which they aspire.

Very few persons however bestow on these matters the consideration they deserve. Almost every one regards them as trivial, common-place points unworthy of attention. Yet is the cause of the heat and light of a burning candle as full of interest, as much an instructive element of philosophy, as is the cause of the heat and light which emanate from the sun. Nor is a knowledge of the causes of weight, hardness, and softness less important than a knowledge of the causes of the descent of ponderous matter, or of the centripetal and centrifugal forces which regulate the movements of the heavenly bodies. Indeed it might be easily shown to be, to a certain extent, more important, because more immediately connected with ourselves, and applicable to the common practical purposes

of life. Yet is the latter knowledge highly esteemed and eagerly sought after, while the former is comparatively despised and neglected. So true is it that we seldom fail to concede to things rare and foreign an ill-judged and groundless preference to things common and domestic.

Very different, however, is the practice of Dr. Metcalfe. He sets a high estimate on the knowledge of *every cause*, and aims at the attainment of it; because it makes a part of the machinery of creation.

Finally; if the Doctor succeed in establishing the correctness of his theory of caloric, (and we do not oracularly assert that he will not) he will be one of the most illustrious benefactors of physical science (if not *himself the most illustrious*) that time has produced. His success, should he achieve it, will be the solution of the *gordian knot*, to effect which many of the master geniuses of every enlightened era and country have labored in vain. And whether he succeed completely or not, he will notwithstanding, by virtue of what he has already done, occupy a place among the most eminent writers of the age.

C. C.

ERRATUM.—For *fo*mentation, read *fer*mentation, page 48, end of first paragraph.

ART. IV.—*New Elements of Operative Surgery.* By ALF. A. L. M. VELPEAU, Professor of Surgical Clinique of the Faculty of Medicine of Paris, Surgeon to the Hospital of La Charité, Member of the Royal Academy of Medicine, of the Institute, &c. Carefully revised, entirely remodelled, and augmented with *a Treatise on Minor Surgery.* Illustrated by over 300 engravings, incorporated with the text: accompanied with an *Atlas in quarto of twenty-two Plates*, representing the principal Operative Processes, Surgical Instruments, &c. First American, from the last Paris edition. Translated by P. S. TOWNSEND, M.D., late Physician to the Seamen's Retreat, Staten Island, New York. Augmented by the addition of *several hundred pages of entirely new matter*, comprising all the latest Improvements and Discoveries in Surgery, in America and Europe, up to the present time. Under the supervision of, and with Notes and Observations by VALENTINE MOTT, M.D., Professor of the Operations of Surgery with Surgical and Pathological Anatomy, in the University of New York; Foreign Associate of the Académie Royale de Médecine of Paris, of that of Berlin, Brussels, Athens. &c. In three volumes.—Vol. I, pp. 914: 1845. Vol. II, pp. 1092: 1846. New York: 8vo. J. & H. Langley.

Notwithstanding that this book has some rare claims on our attention, we had thought, owing to the late period at which the first volume reached us, to defer a notice of it until the whole should be issued. Having seen the second volume, however, and believing, as we do, that the translator and editor will kill the book off, will effectually damn it, in their intemperate zeal to give it currency, we have determined to come to the rescue and save it if we can. We are perfectly serious, of course.

We say it has rare claims to notice. It has passed through two or three editions in the original language. The author is one of the most remarkable men in the profession, and one of the most renowned. He is known to all tribes, kindreds, and tongues, by the many who have heard his voice in the lecture room, by the thousands who have been instructed by his pen. Of all his productions, numerous and excellent as they are, this is the one on which he himself seems to lay most stress,

and the one, for aught we know, by which more especially he hopes to trasmit his name to posterity.

We repeat it has unusual claims to notice. It is sponsored by *MM.* Townsend and Mott, the latter of whom claims for himself (and "for his country," of course) the same position in American surgery that Velpeau holds in French. They pre-advised us long since of its preparation, lest it should take us unawares. They invited our attention to it in every possible way. The announcement has met the eye on the covers of medical journals; it has stared us in the face from publisher's catalogues; it has gone forth on the thousand wings of the daily press to every hamlet in the country. Nor did their exertions stop here. They were not satisfied with the *omne-ignotum-pro-magnifico* disposition of the common mind. They spoke, and still speak, of the work in the most magniloquent phrases; they have, in this respect, the most "damnable iteration" imaginable. If we adopt the opinion of the translator and his associate, repeated again and again in the most solemn and impressive manner, the world has never beheld such a "systematised condensation" of facts and experience, a surgical work so "thoroughly complete," so "judiciously classified," so "philosophically planned." A non-professional man, or even a professional novice, would suppose it to be the concentration, the essence, the summary, the epitome, or in the elegant language of the translator, the *abrégé*, of all that has been done, written, and said in and of surgery from the days of good-man Adam down to the present ten o'clock in the morning. He would look upon it as a veritable pocket Bodleian, a surgical Vatican in little. He would suppose no other book to be needed. He would conclude it to be as indispensable to the surgeon as eyes to a blind man, ears to a deaf one, or hands to an armless one. In short, he would be convinced that it not only pictured all the past and present phases of surgery, but adumbrated all the future.

It is evident that, in the opinion of the translator, genius can no further go—it is the *ultima Thule.* If it were an in-

spired work, he could scarce speak of it with more ardor. As there is one Iliad and one Homer, one Æneid and one Virgil, one Paradise Lost and one Milton, so there is one book on operative surgery and one Velpeau. And what Pope is to Homer, Dryden to Virgil, and Delille in France to Milton, so is Townsend to Velpeau.

But the translator has quite as exalted an opinion of surgery as of the book. It is spread over nearly the whole field of his mental retina. With him the part has become the whole, the less includes the greater. As Velpeau's work—that is to say, "this first American edition, as translated, and with notes, by Dr. Mott and myself"—supercedes every thing ever written, or ever to be written; so "is the great and controlling domain of Practical, Operative, and Pathological and Anatomical Surgery now monoplizing almost the entire healing art!" There is annexation for you with a vengeance. "The whole of Oregon, or none!" is the cry of the surgeons. Time was when there was "joint occupancy;" when physic and surgery had respective claims; when their domains as it were passed each other; when there was common ground. *Mais nous avons changé tout cela!* Surgery engulphs the whole, as easily as Aaron's rod swallowed those of the magicians. The surgeons claim the entire territory—"no compromise!"—54° 40′ !" To our translator "it is clear and indisputable" that Medicine is among the things that were—parodying Horace Smith—

"Physic is an idle waste of thought."

There are to be no more physicians—*non nominis umbra!* no obstetricians—no anatomists—no pathologists—it is *Troja fuit* with all these, except in a surgical point of view. Such of us as almost tremble at the name; who would as soon brave the hungry gaze of "a Hyrcan tiger" as the glitter of a polished catlin; who have been treating bilious fevers, agues, pleurisies, dysenteries, and Heaven knows what else, all our lives; who have been giving calomel and clysters, poking suppositories up the rectum and spreading blis-

ters; and who never ventured further into surgery than doctoring claps and chancres—to find ourselves surgeons!—why it is a most rare circumstance! It is a joke that beats Moliere's *Médecin malgré lui* all hollow! It is most wonderful wonderful and yet again wonderful!

This putting a part for the whole, the less for the greater —this Synecdoche, as the Rhetoricians call it—is a favorite figure with our translator. He does not confine it simply to the book. Nor yet is he satisfied with taking surgery to be the entire healing art—the healing art "in its ensemble" as he would phrase it. In his enlarged comprehension he takes his "long-cherished, personal, and honored friend, preceptor and kinsman" (viz: *M.* Mott) to embody the whole of American surgery. Thus it is all in a concatenation accordingly —the consistency is beautiful—the correspondence admirable. The "Elements of Operative Surgery" is the *liber librorum*—

> *Medicine is an idle waste of thought—*
> AND MOTT IS EVERYTHING, AND EVERYTHING IS MOTT!

He is as much fascinated by him as a gaping boy, for the first time in an anatomical museum, would be fascinated by the rampant, six-foot figure of *papier maché* that graces the Medical Institute of this city. He cannot choose but gaze! and while gazing his honored friend grows under his sight as rapidly as Faust's poodle—he "grows long and broad!" "he fills the whole space!"—will the "*casus* make him laugh," when he sees "the kernel of the poodle?" Does the reader think that we exaggerate? Let him read! if he has a pair of lungs like a pearl-diver; but, if he is troubled with asthma, if in common parlance he is *phthisicky*, if he is old with the old man's wrinkles and anhelation, let him get some one to read for him, who will emphasize what we have placed in large capitals.

"But a still higher source of gratification I frankly confess, is that of the conviction, that in my attachment to a

long-cherished, personal, and honored friend, preceptor and kinsman, and one whose eminent skill justly fills so large a space in Surgical history, (Dr. Mott,) I may have been, as I pledged myself I would be, (see Vol. I,) instrumental both for him, and for his country, in rescuing the details of all his great and master operations, and discoveries, and improvements in surgical processes and principles, from that indistinctness into which they were necessarily passing, by his neglect, (culpable it would be, but from his repugnance to self-laudation,) to gather them together as I now have done in these volumes, from the scattered Medical and Surgical periodical and fugitive works, in which they had been briefly registered, successively as they emanated from his great practical mind, or were created into existence by his INCOMPARABLE GENIUS and consummate skill.

"These master operations have been now, as will be seen in Dr. Mott's own special chapter on *Aneurisms*, also that of *Exsections*, &c., completely arranged and revised under his own inspection, in chronological order, so that hereafter there may be an orthodox work, to which reference may constantly be made for the authentic evidence of what he lays claim to as a Surgeon, and which, thus now, for the first time published to the world, in their *ensemble*, and under his sanction, together with his last, and latest opinions on these matters, present, in our view, we must confess, a precious treasure, for the student FOR ALL FUTURE TIME. It will, we feel assured, prove to be a great *organum* in Practical Surgery which the practitioner, as well as student, may never cease to peruse, and to re-peruse, as embracing some of the most important general *axioms* both in the minute manipulations and in the higher order of Surgical operations, and which will long continue to be received from so exalted a source, as among the surest and most practical land marks to guide those who aspire to eminence in this science, in their onward march to success and honor.

"I feel constrained also to add, that the accomplishment of this part of my labor, is one to which considerations of love of country add in my mind no slight degree of value. For young as our country is in history, and filled as its annals are with great names, both in the heroic periods of its settlement, and in its subsequent ages of military renown, national emancipation, and diffusion of the arts, there is in my humble judgment NO NAME THAT ADORNS THOSE ANNALS EITHER IN THE BATTLE FIELD, OR IN THE COUNCILS OF GOVERNMENT, OR IN ITS DI-

PLOMACY, that has added more sterling reputation, and abiding lustre to the intrinsic glory and future fame of America than that of *VALENTINE MOTT(!!!)*, unaided and unguilded though that name may be by the insignia of office or of power."

How very solemn! We feel as if "the awful shadow of some unseen power" was over and round about us. We feel as *M.* Mott must have felt what time he journeyed in the East, when, after advertising the approach of the great American Surgeon to some minareted city, he passed through its streets thronged with the halt, the lame, and the blind, clamorous for his notice, and heard high above all the devout cry of some bearded and be-turbaned seller of fruit—"*In the name of the Prophet,* FIGS!"

Does the reader think this irony on the part of our translator? So would we, had we not two goodly volumes, with numerous expressions *passim*, all going to show his earnestness as if "he did'nt care who knew it." Does he think it most "admirable fooling?" Well, foolish it is beyond question, as bombastical as foolish, and as fulsome as the most pampered parasite, the most obsequious smell-feast could have made it. If the subject of such extravagant praises do not blush when he reads them, he is more or less than we take him to be. Will the reader have more? Let him read again, bearing in mind our caution.

"For one who in his duties as a christian and a man of science, has done so much personally in the active field of benevolence, and struck out such noble discoveries and new paths to enable us more effectually to alleviate the miseries of our fellow creatures, there will be a balm as we believe, that will rest upon his memory in after time, less dazzling perhaps, but certainly full as enduring, and far more endearing to future generations, than any that the most ardent homage of patriotism could feel inspired with, for the glare of the most brilliant civic or military exploits."

"Excellent! why this is the best fooling after all"—it would

almost "draw three souls out of one weaver." Does a one ask now what this surgical Malvolio has done that he thus has so much greatness *thrust* upon him? or,

> "Upon what *meat* doth this our Cæsar feed,
> That he is *grown* so great?"

Why he himself shall tell. He

"Has practised the ligature of the arteria innominata once, of the common iliac once, of the external iliac six times, of the internal iliac once, of the femoral artery forty-nine times, of the right subclavian within the scaleni muscles, once, of the right and left subclavian without the scaleni muscles, three [now four] times, of the primitive carotid, nineteen times, [now twenty,] and of the external carotid, twice. He has amputated [for osteo-sarcoma] the lower jaw nine times, two of which operations were at the temporo-maxillary articulation, and the upper jaw fourteen [sixteen] times. He has twice practised tracheotomy in the case of croup, [and a number of times for the removal of foreign bodies,] four [nine] times, the section of the sterno-mastoid muscle to relieve torticollis, once the extirpation of a thyroid gland that weighed five pounds two ounces, once [several times] the ligature of the thyroid arteries, with the view of causing atrophy of a goitre, once the exsection of the clavicle, several times the operation for empyema, once gastrotomy, one hundred and six times the operation for hydrocele with injection of sulphate of zinc, twice the exsection of the rectum, twice [several times] the extraction of loose bodies in the articulation of the knee-joint, many times the excision of false articulations, and once amputation at the hip-joint, and at the shoulder and the wrist, [four times operated successfully for the false articulations of the thigh by the seton, several times successfully on the tibia and other bones by the same mode, once successfully the restoration of an imperforate vagina to all its functions, in thirteen cases effected the perfect restoration of the functions of the lower jaw after years of permanent immobility, and once performed exsection of a portion of the nose and upper jaw for a large fibrous tumor]."

And all these cuttings—mere butcher's work at best—these mutilations, which, rightly considered, are so many *op-*

probria to the healing art; which, however necessary, are ever repulsive to the mind of him who is engaged in them, if that mind is properly constituted; these are to make this man

> ———"bestride the narrow world
> Like a Colossus, and we petty men
> Walk under his huge legs!"

these are to wrap up "his memory" after he dies, in some sort of phosphorescent "balm" (unknown, we apprehend, to the Pharaohs) until it

> ———"like a star,
> Beacons from the abode where the Eternal are,"

and flings a glory over his native country;—these, in short, are to make the LAND OF WASHINGTON known as the LAND OF MOTT!! Can folly go further? Would any man wish his worst enemy thus to stultify himself?

It is almost time for us to redeem the promise we made in the beginning, to save this book from its friends. But we cannot yet consent to leave our translator's preface—we should say prefaces, for, counting those in both volumes, there are three of them. They are in many things unique. They belong to a species altogether peculiar; they are indigenous to the region where we find them; and, for the sake of good taste, we trust they will never be naturalized elsewhere. We have not yet exhibited half of the beauties they contain. In variety of a certain kind, they cannot, whether taken individually or collectively, be equalled by anything we know of, not even Sheridan's speech on the Hastings' trial. We do not mean variety of style, for that is ever the same monotonous, involved, cumbrous, heavy-dragoon sort of thing; nor of eloquence, for we have quoted the most famous passages of that; nor of learning, there being scarcely that amount which is considered dangerous; nor of logic, for there is even less of that than of learning. We mean a va-

riety in this wise—that one paragraph is apologetic, another explanatory; one laudatory, another condemnatory; one gratulatory, another monitory; one metaphysical, another metaphorical; one philosophical, another auto-biographical; whilst divers are self-abnegatory; and most are proud, vain, and fantastical. And these are "necessarily and naturally at times" all commingled and intermixed, like colors on a cloth where a painter wipes his brushes.

Shall we give a few more specimens? Here is one that might be termed analytico-laudatory. It shows not only nice discrimination on the part of the writer, but also great grammatical accuracy, upon which he plumes himself.

"The peculiar fitness which the author possesses for such an undertaking, is seen in the sound and well-disciplined mind with which he is gifted by nature—his ample education—his great professional ability and distinction as a practical operator and teacher of surgery—his practised pen as a man of extensive literary acquirements, together with his habits of untiring industry, patient research, and lastly, what is perhaps fully as important as all the rest, the clear judgment, the dignified impartiality, amenity of temper, and spirit of thorough philosophical investigation which he brings to every disputed or difficult question, or point, which is presented to his notice."

Why this is one of Shakspeare's men, anatomized in true Shakspearian style. What "a combination!" Are not the elements rarely mixed in him? Sits he not amongst us like a descended God? "Note him, good Charmian, 'tis the man; but note him!"

The first sentence of the next paragraph we do not know how to characterize, unless we call it philosophical. It strikes us that we have met with it before.

"The fruits of these rare intellectual and moral endowments, which are perhaps infinitely more desirable, certainly in general far more serviceable in society, than the irregular sallies and random efforts and effusions of mere isolated genius, are encountered upon every page of his work."

The careless reader may see nothing of particular moment in this little sentence. But to our thinking it contains the germ of a deep philosophy. Its half axiomatic structure gives point to a great truth it contains—a truth happily exemplified "upon every page" of these prefaces, which essentially consist of "the irregular sallies and random efforts and effusions of isolated genius."

The following sentence should be read as it stands in the book, in immediate connection with the one just quoted.

"As for example, whatever others may say to the contrary, the exact and full description which he gives in all the first portion of this volume in relation to MINOR SURGERY, or those common and indispensable operations, manipulations, dressings, &c., of a general though not difficult nature, which it is nevertheless important to be thoroughly conversant with as the rudiments of our art, and the only sure basis of all correct knowledge to be attained afterwards."

What we observe in this, besides the writer's usual grammatical accuracy, is his remarkable sagacity in nosing out the most important *fruit* of his author's rare intellectual endowments. From the prominence which he gives it, it is evident that he almost considers the treatise on Minor Surgery to be the crowning glory of "Velpeau's *great* elementary work."

"The professional reader also, whoever he may be, if imbued with the proper zeal and enthusiasm which should belong to him, will have reason to thank Professor Velpeau for the mass of valuable erudition which he has brought to bear by his unconquerable application and assiduity, upon the *true* history of every operative surgical process, principle, or discovery, which adorn or can illustrate the annals of the science, fortified as the whole also is by direct and specific references to every name, authority, or work, ancient or modern, upon which the proofs of his assertions and citations rest."

We have quoted this paragraph partly because it contains

violations of syntax for which the writer would have been (and doubtless was) whipped when he was ten years old; and partly because the one we now give is dependent on it.

"We consider that this vein of rich, and much of it new historical contributions in surgery, and which so steadily courses or threads its way through the pages of the work, constitutes as it were the natural woof upon which the whole superstructure is woven, and thus forms to it a substratum of inappreciable value. Because it not only shows what has been done, and what has stood and still stands the test of time, and will doubtless continue to be approved of and recognised as of established utility; but it points out also as dangerous, if not forbidden paths to future explorers, those fruitless speculations and experiments that are to be avoided as not only a destructive waste of time to the student, but as exposing his mind to be seduced by visionary pursuits, and thereby into researches which will be liable to end in the repetition of similar abortive results."

This paragraph is only one of the many gems scattered through these prefaces, as diamonds are scattered in Golconda's mines. As a whole, it is tripartite in character, being metaphorical, scientific, and cautionary. Then the first sentence is likewise tripartite, being composed of three—nearly four—distinct metaphors, any one of which would suffice to make the fortune of an unknown writer. First, there is a "vein" filled with "new historical contributions"—a fluid which, though "quite a peculiar sort of juice" as Mephistopheles says of the blood, we agree with the writer in thinking decidedly "*rich.*" Then this *vein* "in a moment, in the twinkling of an eye," becomes a thread which we follow through the "dim cells and winding galleries" of these two volumes, as Theseus followed that of Ariadne through the labyrinth of Crete; until lo! it is multiplied into a "woof" so "natural" that we can almost hear the weaver's shuttle playing through it with alternating motion. The "woof," however, is but a transition stage—another metamorphosis and we

stand upon a "sub-stratum," of a sort that would puzzle Lyell himself to describe.

Even without the charm of verse, which we are persuaded could easily have been given it, and which will be in the second edition, this is "perfect, past all parallel." It is the most remarkable instance on record of the ease with which things the most opposite and dissimilar can be fused into one homogeneous and sparkling whole. Genius is the only true amalgam, and the writer of this preface is its fortunate possessor. Did we believe in the transmigration of souls, we should insist that the soul of Ovid was now fluttering with restless wing within the mortal bodyof M. Mott's personal friend and kinsman, the translator of this "first American edition of Velpeau's great Elementary work on Operative Surgery." Insist upon this, did we say? we think better of it. We will maintain against the world in arms, that if Peter S. Townsend had lived in the first century after Christ, Publius Ovidius Naso, with all his harmonious and smoothly flowing numbers, would have been hissed and hooted from every bath and portico in Rome. This is our "sober second thought"—our deliberate opinion.

Let us, however, continue our examination. Enthusiasm sometimes, like murder, *will* out; and we found it impossible to wait until we had finished the examination of the whole paragraph, before we expressed our admiration of the writer's fancy and genius. In the second sentence, as near as we understand it, the vein re-appears. We left it a "substratum"—but, *quod fuit anté, reformet.* Soon, however, it experiences another astounding metamorphosis, being changed into something like a *finger-board*, and in this shape seems destined to be permanent—*armataque mansit imago.* As a finger-board it is quadripartite in its function—it points four ways at once, to "what has been done," to that which "still stands," to that which "will continue to be approved of," and lastly, to "speculations" and "experiments" which are converted into "paths," "primrose dalliance" in which is "to

be avoided" as exposing to "visonary pursuits," whence would come "researches" ending in "similar abortive results." If the reader does not admire this, he must be as fastidious as a sick monkey. We *will* restrain any further expression of our admiration for fear of being thought crazy. Let, then, "expressive silence muse" the translator's praise.

Our next quotation is of the self-abnegatory and laudatory variety. The self-abnegation is positively excruciating, though it is by no means the best specimen we could find.

"We confess that it is with pride we present this work to the Profession; not so much, perhaps, from any pretensions we might make, in respect to the exactness and fidelity of the translation, or the composition and substance of the vast amount of new matter superadded, as from the conscious conviction we feel that there can be found nowhere, in any language, a surgical work so thoroughly complete, and so judiciously classified in (as has already been said in the Prefaces to the First Volume) the abundant and highly interesting and invaluable details which it comprehends, of surgical processes and discoveries, and surgical anatomy and relations, traced down with astonishing erudition and acute discrimination, by the learned author, Professor Velpeau, from the earliest epochs to the present day."

The construction of this sentence is altogether Ciceronian —it is musical in the extreme; but it is not this we wished particularly to notice. We also observe here the disposition of our translator to use the synechdoche. We have already seen how apt he is to put the part for the whole, the less for the greater. Here he puts the *thing containing* into the *thing contained.* He classifies a book in its details; whereas most authors attempt to classify details in a book.

But the point of most interest to us in this paragraph still remains. It is a new and very curious psychological fact discovered by our translator, viz: the existence of a "*conscious* conviction." Here is something that will astonish the phrenologists, and they are not easily surprised. It will dilate the eyes of a neurologist. It will even arch the eyebrows

of a mesmerist. As yet this fact is a matter of personal experience with the writer; he "*feels* a conscious conviction;" but the evidence of so acute an observer will of course be taken as sufficient. The fact then exists. Is it a general one, or is it confined to this particular individual *homo*, making him "a marvel to the nations?" The answer is of immense importance. It would also be interesting to know in the present instance what the conviction is conscious of—whether, for example, of ignorance (as is not improbable), or crime, or inconsistency; nothing of this has been vouchsafed to us. We have tried our best to form some conception of this curious thing. The nearest approach we can make to it, is to imagine the feeling that a pregnant woman—"one who loves her lord"—may have, when near the end of her term. She has, it may be presumed, a *conviction* of her pregnancy; and if, as some contend, the yet unborn child is *conscious* (no matter of what) why of course the mother now and then *feels a conscious conviction.* Does the translator wish to create the impression that he is *pregnant?* His "estimable friend, M. Velpeau," some years ago found a man whom he pronounced "pregnant with his little brother." Is our translator that interesting individual? We pause for a reply.

We turn now to the auto-biographical portions of these unique prefaces. These we find scattered about like *disjecta membra*, and we have expended some labor in collecting them from the two volumes. This is a labor, however, which we have cheerfully performed, partly for the sake of the translator, partly for that of the profession of which we are both members, and partly for the sake of Dr. Mott's country, to which they will prove "a precious treasure," that "may be perused and re-perused." They may serve to infuse new energy into some flagging spirit; they may give heart to some "forlorn and shipwrecked brother." They are as few and as precious as the sybilline leaves; for our translator, like other men, is somewhat careless in this particular. He seems to forget that some of the interest which attaches to great men, attaches also to all those with whom

they are connected; and that, however humble he may think himself to be (and really his humility is astonishing) and however humble he really may be, some of the interest which attaches to Mott, attaches likewise to himself. It is the quality of greatness to—

"Spread undivided, operate unspent."

Men of such "incomparable genius" as Mott, are not only great in themselves, but they are the cause that greatness is in other men. Witness, for example, the case of Dr. John Murray Carnochan, who figures in these pages as a sort of metallic reflector of Dr. Mott's surgical light, partly because he, as well as Dr. Schmidt, claims to have been the first to divide the masseter muscle, but mainly because he was "one of Dr. Mott's pupils"—so it is carefully set down in the book, and in this particular he has a decided advantage over his competitor. Our translator, we say, has forgotten that, like some of the metaphors we have noticed, Dr. Mott is tripartite, or even quadripartite; that he is even more to him than Cerberus was to Mrs. Malaprop—"three gentlemen at once;" in short, that he is kinsman, preceptor, friend, and associate translator. Yet he has sometimes had this fourfold relation in view. Else we cannot account for the overwhelming impression made upon him by the man who did *not* first remove the lower jaw; nor for the 800-diameter-magnifying power of the lens through which he has gazed at the man who is the first ("in America") that amputated at the hip-joint, the first that sacrificed a black cock to Esculapius, and who is the first in the hearts of his countrymen. We may then "be doing a real and great good" in reminding him of it. We confess, moreover, that we are actuated by another motive—the fear, that, when the translator should recollect himself and not find these things noticed, he would "have it in a particular ballad else, with his own picture at the top of it."

But we will not detain the reader any longer from these interesting excerpts.

"I do not wish nor intend to dwell upon my own part in this performance, as I make no special pretensions to Surgery, however much I may admire the commanding solidity of its structure, over that of any other branch of Medicine, or however ready I may have been to avail myself of all the occasions which have presented themselves in my professional career, of indulging in a practical application of its principles, at least, to many of its minor operations and elementary processes.

"My professional labors have, it is true, been for the greater part of my life confined more to the practice of Medicine itself, strictly so called, and especially directed to the investigation of febrile diseases, as personally examined and investigated by me under all their varied aspects of climate and topography, and the influence of the latter on the human organization. I shall, however, never cease to reflect with pleasure, hard as the task has been, in the thought that in what concerns the great department of *Practical Surgery*, I shall have left some testimonials (lasting I trust) of my industry at least, and of my zeal to promote the advancement of art whose high utility all the world, *especially since its brilliant progress within* 30 *and even* 10 *years past*, now concede to be open to palpable and actual demonstration, and as indisputably entitled to be ranked as an exact science, and as far beyond the reach and assaults of empiricism as mathematics itself."

We have *italicised* a very interesting piece of information conveyed in the second pargraph. It will, we are persuaded, prove no less surprising than agreeable. What this brilliant progress of the world consists in—whether in accelerated motion around the sun or on its own axis, in morals or steam, in the arts of war or of peace—or in something entirely different—we are not informed. It is enough to know that the world has overtaken surgery, and conceded to it a proper rank. We somewhat congratulate ourselves that this forward movement dates from about the period of our nativity, and that its recent and marked acceleration is about co-eval with our manhood. We can scarcely persuade ourselves that these are mere coincidences.

There is another bit of information, dropped here by the translator, which, as being of less interest, we did not italicise. We mean the fact that reflection, which has heretofore been a hard task, will hereafter be easier. The mode of reflection "in the thought," is peculiar to him.

"I had also, in two different sojourns at Paris and Montpellier, in 1821–'22, and at Paris again in 1827–'28, had the happiness to become acquainted with, or to follow upon the clinical lessons of, some of the most illustrious of these men, as well as of their predecessors. It was natural that I should recur back with satisfaction of hours agreeably, if not profitably, spent under the instructions of such men as the Barons Larrey, Dubois the elder, Percy, and Dupuytren, Cuvier, Lacepede, Delpech, Richerand, Thenard, Gay-Lussac, Boyer, Roux, Lallemand, Civiale, Lisfranc, Cloquet, Velpeau, &c., &c."

Thus it is seen that, so far as preceptors are concerned, our translator has certainly been one of Heaven's favorites. Mott was the Alpha, Velpeau the Omega. Mott began the list, Velpeau ended it; so that, in reference to the equal greatness of the two men, we may say that Mott was the beginning of the end. But this is not all. The translator tells us in a note that at "the same sitting of the Academy" he absolutely *saw* La Place, Berthollet, Chaptal, Portal, Desgenettes, Legendre, and others! There is no telling what influence such a sight may have had on him. With such a galaxy of preceptors to teach the fledgling how to make his first essay, and with such incentives to sustained effort as were afforded by what he saw, it would be strange indeed if he had not reached his present exalted position before the world. Nature would deserve reprobation as a niggard of no ordinary character towards him. But his petals fortunately were not "nipt before they blew," nor "died they on the promise of the fruit." As if conscious of the interest that would be felt in him, he gives a list of part of his writings. It is with a feeling akin to indignation that we find this list in the degrading position of a foot-note printed in brevier.

We thus plant it, clothed in good small pica, at the top of the 67th page of the 6th volume of the Western Journal.

"I will refer here, to some of my principal writings on those subjects:

"1. My *Report* on the *Fever* which prevailed in *Bancker Street*, New-York, in the Summer and Autumn of 1820.

"2. Account of the *Yellow-Fever* of New-York, in 1822.

"3. Account of the Weather, Topography, and Diseases of the Bahama Islands, West Indies, 1823–'4–'5, published at New-York, 1826.

"4. Account of the Black Vomit, or Yellow Fever, at Havana, Island of Cuba, West Indies, 1830.

"5. Sundry Essays in various Medical Periodicals.

"6. My *Report* on the Yellow Fever, imported from the West Indies into Rondout, Ulster County, State of New-York, on the Hudson River, 100 miles North of New-York city, in the summer of 1843."

We regret that none of these productions have ever fallen under our notice. The editions were undoubtedly exhausted in the East. Still from the mere enumeration we have partly gathered and partly surmised two or three things. One is an auto-biographical item, viz: that our translator in the course of his varied life has worn palm-hats and smoked cigars in the West Indies, has eaten bananas and sucked oranges in their native clime. Another is a geographical fact, not noted in any work that we have seen, viz: that the position of the State of New York is on the Hudson River, 100 miles from New York city, in the summer of 1843. We commend this to Mitchell and Tanner.

This is positively all we know of the "birth, parentage, and education" of the translator of Velpeau's Operative Surgery. The account is lamentably meagre; it is unsatisfactory and provoking in the highest degree. We trust that he will yield to our earnest request to devote the preface of the third volume to his own glorification, as he has that of the first to the praise of Velpeau, and that of the second to the praise of Mott. He has apotheosised his two preceptors;

he has placed them among the immortal; let him crown the work by "embalming" himself.

Let us pay our respects now to the preface of the associate translator. It is to him in the end that must be credited all the beauties and elegances we have thus far pointed out. He is the *final cause.* He advised and supervised the translation; he stands sponsor for Dr. Townsend's ability and faithfulness. All this the translator tells us repeatedly; it is a sort of feather in his cap. And all this the associate translator tells us in "his own special" preface; it is a sort of feather in his cap. This preface, whilst it preserves a striking resemblance to those we have noticed, has at the same time something a little uncommon about it. This is as it should be. It would not do for one of such transcendent genius to write a common preface. If not exactly derogatory, it would not comport with true dignity. Moreover he must keep up the impression already made; he must continue to dazzle us. He must have an *epistolary* preface, for a reason very similar to that for which Bonaparte made the campaign in Egypt. This epistolary preface consists of two letters, one from *M.* Mott (thus we write him, and thus he likes to be written) to Velpeau, and one in reply from Velpeau to Mott—the whole eked out by a case of removal of the jaw, which M. M. thus takes occasion to relate *in limine.*

Of the first letter we may say what was said of the love-letter of a distinguished individual that "if not so good as we expected it is the best we ever heard." As there was a good surgeon spoiled when Dr. Townsend turned his attention to "febrile diseases, as personally investigated by himself;" so a great letter-writer was spoiled when his preceptor turned surgeon. We are convinced he might have achieved a great reputation in a difficult department of literature. He might have rivalled Walpole, Mad. Sevigne, Lady Montague, Pope, Byron, and many others, whose names we do not now remember. But in that case, the arteria innominata might never have been tied; certain "great and master

operations" never been performed; divers "noble discoveries and improvements" never been "created into existence;" and sundry "new paths" never been "struck out." It is better therefore as it is. Though he might have witched the world as a letter-writer, it is better to have captivated his pupil's fancy and thrown a light of glory over his native country by cutting off legs and tying arteries. Meantime we have this epistle to show his versatility. It is an elegant specimen, and we should not be surprised if some day it figured in what is yclept the "Complete Letter-Writer," hawked about bar-rooms and steam-boat landings by dirty-faced and ragged little boys.

There is an old adage to the effect that "he who drives fat oxen, should himself be fat." It will be seen that Dr. T.'s preceptor fulfils all reasonable requirements in this particular. Many of the excellences pointed out in the pupil's prefaces, are also found in the preceptor's. Indeed there seems to be a very "sembable coherence" betwixt the two. There is the same happy tautology, the same inconsequence in many of their inferences, the same disregard of numbers and cases, and the same heaping of metaphor upon metaphor with most impossible conveyance. Moreover the sentences of each have the same sluggishness in getting towards a termination, dragging their slow length along like an Alexandrine or a wounded snake, as if the channels of thought through which they passed were convoluted like the intestines or the seminiferous ducts.

To show how fit a "sponsor" M. Mott makes, here are samples of the expressions he uses: "an inestimable *archive;*" "compendiums of a *limited* character;" "profited *of* opportunities;" "signify commendation *to* an undertaking;" "*mutually* acceptable to *both.*"

But here is a whole sentence—

"Because I felt that by associating my labors with those which have received the approbation of your judgment, and which your genius and untiring industry have wrought out in

your estimable work, as an enduring monument to your fame, I might find an appropriate place and guarantee for indulging the ambition that I, like others, must naturally have of seeing legitimately transmitted, through an orthodox and approved organ, for the judgment of an impartial posterity, an authentic account at least (if only at best but an abrégé one) of my *stewardship* also in the great field of surgical science. This so far as concerns myself, (and independent of perhaps paramount considerations, to give wider diffusion upon this continent to your great and useful work,) I felt admonished by the time of life at which I have arrived, to be be due as well to myself and my own reputation, as to my conntry and profession."

We have already seen how the pupil applied the "flattering unction," and here we see how complacently the first preceptor takes it. He is charitable, too; he distributes it freely; and a little further on Velpeau repays it all liberally. In fact the harmony among the three is beautiful. They touch hands all round. First Townsend tickles (if we may use so familiar a phrase) Velpeau and Mott; then Mott tickles Townsend and Velpeau; then Velpeau tickles Mott and Townsend. We beg the Frenchman's pardon; but, for the nonce, we must take him in the company we find him.

It is evident, moreover, from this sentence, that the editor thinks himself all the translator says he is. He acknowledges no equal other than the author of these "Elements." He brooks no other rival near the throne. Velpeau is his *alter ego.* We can fancy him saying in the slightly changed language of rare Ben Jonson—

> ———"Great and high,
> The world knows only two, *Velpeau* and *I.*"

He will form a surgical *duumvirate.* He will share the world with the great Frenchman, but with nothing meaner. He will give him the Eastern continent, whilst he himself—the great American Surgeon—takes the Western. Or to express it in the language of old Terence—

> "Curemus æquam uterque partem; tu alterum,
> Ego item alterum."

One more quotation, and we are done.

"As such, then, my dear sir, I have ventured thus, while life is so short and art so long, to ask for myself a niche in the great edifice of surgical facts and truths of which you are the constructor and owner. I have to ask of you the privilege that I may be allowed within this storehouse, containing so much of the treasures of our science, to make safe deposit and registration of the detached fragments of the scaffolding at least, of that extended work of my own on Operative Surgery, which, as you are aware, I have for so long a time meditated, and of which these offerings must for the present be received as the pledge."

This is a gem in its way, for the equal of which we must refer to a quotation already made. Observe: M. Mott wants first a "niche" in Velpeau's "edifice"—a place to put his body, or his statue, or his "memory" after his kinsman's "balm" shall have descended upon it like dew from heaven upon a flower. But this will not do; so he likens his friend's beautiful edifice to a "store-house," and asks to throw into it the "fragments" (viz: loose planks and pieces of scantling) "of the scaffolding" of his own abandoned building. We repeat, the beauty and classic grace of this can be equalled by nobody but Townsend.

There are many other things in these prefaces deserving of notice, but we must forbear. The critical reader will see that, even in the sentences we have quoted, we have omitted many things worthy of remark. We need scarcely add that those who succeed so well in putting their own thoughts into English, succeed quite as well in translating the thoughts of another man from a foreign tongue into English. And now we wish to know if the men who thus write deliberately, and not in the hurry of supplying a periodical press, have not a right to "pride themselves on their work?" to congratulate themselves on their knowledge of the vernacular? to speak of "inexcusable and gross blunders" in other works? and to assume a high tone about the "depreciation of the standard of American education and character, by the

book-making attempts of certain adventurers in the profession?"

It was our intention now to take up the text, in order to fulfil the promise we made in the beginning; but the relentless tyrants of the printing-office tell us we must stop. We shall take the first opportunity to redeem this promise. For fear this may not be before the issue of the third volume, let us beg the translators, for the sake of good taste, and of the American press, the character of which has been so discredited, to make their translation less literal; to give English idioms in the place of French; to drop the French prefix *M.* before American and English names; not to place French words in brackets after giving the proper translation; and above all not to use a French word when there is an equivalent in English. If, in addition to this, they will remove the citations to the bottom of the page, and will never include in brackets more than one line between a verb and its nominative, an adjective and its noun, a preposition and the words to which it relates, they will improve the appearance and enhance the usefulness of these volumes.

Meantime, until we can spread something of it before our readers, we beg leave to assure them that despite the inconsiderate and silly laudations of the translator and editor, despite the bad taste which seems to have presided over the enterprise from the beginning, despite the want of grammatical knowledge everywhere displayed, the book is a good book, and a valuable book. It could have been written by no common man. It could not have been written at all in this country, simply for want of books from which to compile it. Yet it is by no means going to supercede every other book. As a text book, for which purpose it is so much vaunted, we should never think of placing it in the hands of a student. But more of this anon.

C.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Magendie's Introductory Lecture at the College of France. The following remarks, which we extract from the Epoque, were made by Magendie, on opening his course of physiology at the College de France:

I have long been in the habit previous to resuming my lectures, of devoting a few minutes to an inquiry into the actual state of medicine, and to an examination of the modifications which the theory and the practice of medical science may have undergone during the preceding year. This retrospective analysis will to-day furnish us with a certain number of reflections, the importance of which it would be in vain to endeavor to conceal, referring as they do both to the present and the future state of the profession.

Medicine and medical practitioners have attracted much attention during the last year. Many members of our profession have sat in congress, government has issued committees, the ministers have made solemn promises, and it is said that a law to regulate our destinies will shortly be presented to the Chambers. Everything, therefore, seems to smile upon us, and the wind swells our sails. But in the midst of these favorable circumstances—of these happy omens, alarming symptoms are discerned. The future prospects of medicine are the subject of deliberation, but ought we not sooner to deliberate on its existence.

Medicine can only exist but inasmuch as patients have faith in it, and claim its assistance. It is not by theories that it lives, but by clients. Now it is impossible to conceal to ourselves that, at present, a certaiu proportion of the pub-

lic abandons classical medicine, ironically called *old medicine*, and throws itself into the arms of new systems, thereby firmly believing that it associates itself to the progress of intellect.

Homœopathy—for it is more especially to it that I allude —aspires to nothing else than to overthrow the entire medical edifice with the arms of ridicule and contempt. And do you know how many specifics it numbers? Three hundred and fifty! With a few globules of aconite, at the dose of a billionth of a grain, it produces the same effects as a bleeding of twelve or sixteen ounces. You exhaust your intellectual energies to find out the seat and the nature of a disease.—Vain efforts! Homœopathy shows that every morbid symptom has its origin in psora, a kind of imponderable agent, which therapeutic substances reduced to unimaginable proportions alone can combat. Thus it is only with infinitely small means that infinitely large effects can be produced.

But, you will say, the persons who believe such absurdities are poor dupes, and the men who prey upon their weakness, hardened quacks. You are perhaps right; but listen to those whom you meet in society, and you will be surprised to hear of the wonderful cures that homœopathy has performed. No doubt its promises are often cruelly falsified, but the failures are but little spoken of. Moreover, we must not deny that many patients have recovered their health, in a most unhoped for manner, whilst under homœopathic treatment. It is easy to understand that enthusiasm or the love of gain should take advantage of such facts to exalt the marvels of homœopathy. This brings us back to a question which I have often raised, and which I have endeavored to elucidate by experiments for the last ten years—viz: what is the influence of treatment on the progress of disease?

In hospitals, as well as in private practice, we must first take into consideration the influence of the mind of the patient. Now there can be no doubt but that a patient who takes a medicine, experiences immediate benefit, from the conviction that it will favorably modify his disease. If this favorable result takes place, what has been the real share of the medicinal substance administered! Medical men are always inclined to attribute the cure of the disease they treat to the means which they have employed; but recollect that disease generally follows its course, without being influenced by the medication employed against it. Thus it is that you are often much deceived. A given medicine will succeed in an apparently serious case, and will fail in another case

of a less dangerous character, without your being authorized to attribute to yourself in any way the success or the failure.

These reflections explain at once the cures of which homœopathy is so proud. Homœopathy, instead of bleeding a patient, will place gravely on his tongue a globule of aconite, which he will swallow with confidence and faith. You then see the disease improve. But it would have improved just as well without globules, provided some singular operation had struck the imagination of the patient. It really is too great a stretch of credulity to believe that a globule prepared by the formulæ of Hahnemann can contain any active principle. But, on the other hand, any one who has seen disease, must at once admit that this same globule may exercise, through the imagination, a powerful moral effect. You must not, indeed, accuse me of partiality towards homœopathy, when I state that I firmly believe that a physician would cure a patient sooner with globules, if the patient has faith in them, than with the most appropriate medicinal substances, if he distrusted their action.

What I state respecting medicinal substances is equally applicable to bleeding. A patient is seized with the symptoms to which the term inflammatory has been applied, and asks to be bled, believing that the loss of blood will cure him. You open a vein, and the abstraction of a certain quantity of the vital fluid is followed by an amelioration of the symptoms. But take care how you interpret the fact; the improvement may be owing to the moral effect produced, more than to the venesection. I will mention as a proof what I have often observed in my wards at the Hotel Dieu. A patient laboring under acute disease—pneumonia for instance—enters the hospital, believing firmly that he ought to be bled; I bleed him, but merely to the extent of two or three ounces; too small a quantity for the circulation to be in the least influenced by its abstraction. Nevertheless, the patient becomes more calm, and says he is better. A mere trial of bleeding will thus often suffice to arrest the progress of a disease which under another physician would be treated by abundant depletion. For more than ten years I have not found it necessary to have recourse to copious bleeding; in other words, I have rather endeavored to act on the mind of the patient than on the circulation, and I have no hesitation in asserting that my practice has not been the less successful. Indeed, were I to tell you my mind entirely, I should say that it was more especially in the hospitals, in which the

most active treatment is adopted, that the mortality is the most considerable. You must not, however, think that I wish to proscribe bleeding; I only wish to warn you against the deductions that may be drawn from its results.

After mentioning various other pseudo-medical delusions, Magendie continued:

It is with regret I have laid before you this melancholy picture of the deplorable abuses which exist in the medical world; I am afraid no laws on the practice of medicine will be able to eradicate them. The quack will always contrive to elude the wisest regulations, for he knows that patients want to be deceived. Yes, gentlemen, we love error, and often refuse to yield to evidence, even when it is proved to us that our good faith and credulity have been imposed upon. Of this fact I will give you the following proof. A lady, a fervent believer in mesmerism, asked her niece, who was poorly, for a lock of her hair, in order to consult a somnambulist. The niece, wishing to try the credulity of her aunt, gave the hair of her maid instead of her own. A renowned somnambulist was consulted, and at once recognised, by the hair of the maid, all the symptoms presented by the niece, whose sufferings she minutely described, to the great edification of the lady. The latter was then informed of the trick that had been played. You would naturally have thought that she would have recognised the imposture of the somnambulist. Not at all; she preferred concluding that the maid servant had the same disease as her niece, and obliged her to submit to a regular treatment, as if she had been poorly, although at that time in the best possible health.

Thus, many causes contribute to throw uncertainty on the result of medical treatment, either rational or empirical.—Sometimes it is the patient who will be deceived; sometimes it is the quack, who deceives knowingly; sometimes it is the conscientious physician, who, nowithstanding his honesty, allows himself to be led into error by an erroneous interpretation of the means employed.

In the presence of such difficulties, it is less desirable for us to endeavor to lay down some law, than to give to our studies a more serious direction. Instead of demonstrating to pupils theories already framed, and often very badly framed, it would be better to teach them rather to study facts, and to take as their guide experimental observation. We have seen the rise, and, in the course of a few years, the fall, of a system which rested entirely on a single undefined word—inflammation. This system, opposed to all physiological ideas,

was erroneously called "physiological medicine;" and yet its author was neither devoid of talent nor of knowledge.—Such, no doubt, will be the destiny of those pretended methods of treatment which are, in general, founded on visionary speculations, have fashion for support, and dupes for followers.

As for us, gentlemen, we shall continue, as we have hitherto done, to study phenomena in the organs in which they are accomplished. Although the part of the physician may not be always as efficacious or as active as we could wish, when disease requires assistance, we may still, by well-judged intervention, assist Nature in overcoming the functional derangements which give rise to disease. We shall more especially, therefore, endeavor correctly to appreciate the physiological action of organs. How, in reality, can we have recourse to rational treatment when we are ignorant of the normal conditions of the economy.

It will be perceived that Magendie has taken advantage of the opportunity furnished him by a cursory sketch of the popular medical delusions of the day, to give utterance to peculiar opinions respecting the influence of medicinal agents in the treatment of disease—opinions which stamp him as nearly a sceptic with reference to their therapeutic powers. The partial scepticism of M. Magendie as regards medicinal agents has been long known to French pathologists, and has contributed not a little, with them, to throw discredit on his physiological experiments. He may be considered the most prominent representative of the French 'expectant' school—a school which now numbers but very few votaries among our neighbors, notwithstanding the opinions to the contrary generally entertained in this country. The great reputation of Magendie among British physicians, which induces most medical travelers when in Paris to hasten to his wards at the Hotel Dieu, of which he is one of the medical officers, will partly account for the erroneous views respecting modern French practice that are entertained by many of our countrymen. Magendie has experimentalized himself into the belief that nature requires but little other than dietetic and hygienic assistance when disease is present. Discarding, consequently, the accumulated wisdom of former ages, he treats his patients, conscientiously, according to these views, and it is generally considered by his Parisian colleagues with but indifferent success.

The error into which Magendie has fallen exemplifies the danger of laying too great stress on the results of mere experiments, sometimes as fallacious sources of knowledge as any. The same may be said of the numerical system when pushed to the extreme, and resorted to without due qualification, as a means of therapeutic research. Both these modes of investigation, although admirable in themselves, when abused, or used as mathematical formulæ, nearly inevitably lead to that most lamentable of medical errors, scepticism in the power of therapeutics.—*London Lancet.*

Prescription of Castor Oil.—It is worth knowing that the nauseous greasy taste of castor oil is pretty effectually disguised by mixing it with milk, and adding a little nitric æther and oil of cinnamon.—*Druitt.*

Graves on the Relapse Periods of Ague, and the Indications of Treatment.—Having noticed with much anxiety and accuracy the course of a quartan ague for twenty-seven months, I constructed a table for the purpose of obtaining a connected view of the number and dates of the fits. This table had been made for some time before I discovered that it contained *data*, which authorize us in concluding that the law regulating the periodicity of agues applies not only to the succession of paroxysms, but is extended to the free intervals between them—in other words that the same law of periodicity which governs the disease, while it occasions fits, continues likewise to preside over its latent movements during the interval when no fit occurs, and thus the true periodic rate is carried on, though as in a clock from which the striking weight has been removed, the usual signal does not mark the termination of each certain definite portion of time.

This law, now for the first time brought to light, exhibits a new example of the tenacity with which periodicity clings to a disease, when once firmly impressed on it, and recalls a very similar phenomena observed with respect to the catamenia, which, having been suppressed for many months, not unfrequently reappears on the very day on which the monthly period should have occurred, had no such suppression taken place.

A knowledge of this law will, therefore, prove of the greatest importance, in enabling us to guard against the return of the disease; for, for several weeks after the series of fits has ceased, we can point out to the patient on what days they are liable to reappear; and, consequently, he can upon those days more effectually guard against the occasionally exciting causes of the disease, such as cold, fatigue, &c.

In reference to the treatment by quinine, the writer believes the practice generally followed to be wrong. He objects to the continued use of the remedy, as thus the constitution becomes accustomed to its influence when the ague-fit is absent, and then that influence is weakened.

The mode of treatment which I adopted was calculated to avoid this inconvenience. It consisted of giving the quinine for four successive days, and intermitting it for the six following days, thus embracing the interval comprehended in three fits. By these means it was hoped to keep the system sufficiently under the curative influence of the quinine while we avoided rendering the constitution too familiar with the medicine, the six-day interval preventing it from becoming saturated by the quinine.—*London Lancet.*

Remarkable Case of Paraphymosis.—Mr. Hancock was consulted on the 7th of January, 1846, by a gentleman aged sixty-five years, suffering from paraphymosis. The penis was much swollen, and the prepuce, especially at the under part, much thickened, attended with great pain. He stated, that for three months previously he had experienced sensations of tightness and heat round the cornea glandis, that the parts occasionally swelled, at times being better, at others worse. He described the sensation as that of a tightness, extending from the tip of the penis to the cornea glandis, underneath which it had increased rapidly for the last three weeks, so much so that he was induced to come to London from Suffolk, for advice. For the last two years he had ridden very spirited horses, and being a fat, heavy man, had frequently struck his penis against the saddle, but without at the time experiencing any inconvenience. Has suffered much pain latterly, as if a string were tied tightly round the cornea glandis; has had a double hernia, of large size, for several years, and has been in the habit of wearing trusses having strong heavy springs. His prepuce was not tight naturally.

Mr. Hancock endeavored to reduce the parts in the usual manner, and thought he had succeeded, but in two days the patient returned with the paraphymosis as bad as before, having suffered severely from the endeavors to remove it. Mr. Hancock having drawn back the skin, divided the thickened mucous membrane with a sharp-pointed bistoury—as was usually done in cases of paraphymosis—and desired him to go home, where he would visit him on the following day. On the 10th he again saw him, and found him as bad as before, not at all revived; the glans and the whole of the penis were swollen, the penis being twisted, inflamed, and exceedingly painful. He examined the parts very carefully; the skin was free, as was also the mucous membrane, which had been completely divided by the cut made yesterday, but he found a band of condensed cellular tissue, about a quarter of an inch wide, encircling the cornea glandis, and which he concluded was the cause of all the mischief; he consequently cut down through this to the fibrous covering of the corpus cavernosum, with immediate and decided relief to the patient, who is now nearly well, although thickening of the prepuce still exists.

Mr. Hancock related this case to the Westminster Medical Society as presenting some points of interest; the paraphymosis was not the result of any gonorrhœal discharge, or sores on the glans, its production was neither preceded nor attended, until quite latterly, by any active inflammation, but the mischief apparently was produced by gradual thickening and induration of the cellular tissue surrounding the cornea glandis, probably aggravated by the constant dragging exercised on the parts by the strong truss he was in the habit of wearing. Another point worthy of notice was, that in the common forms of paraphymosis the result of acute inflammation of the prepuce, originally too contracted, the stricture was situated in the mucous membrane lining the prepuce, and the mischief was at once removed by dividing it with a bistoury from within outwards, without cutting through the integuments, but in the case here related, the mere division of the mucous membrane, as commonly performed, was attended by no benefit whatever, as it was not until the subsequent day, when he cut down on the cornea glandis to the fibrous covering of the penis, that his patient was at all revived.

Within the last few months, he had been consulted by two other gentlemen for spontaneous thickening and induration of the prepuce, for which they could assign no cause. In one

it induced phymosis, in the other paraphymosis. In the latter he cut the mucous membrane, but as he never saw the patient again, he had no means of knowing the result. However, the case here related showed that in spontaneous paraphymosis the stricture may depend upon thickening cellular tissue, and not upon any change in the mucous membrane.—*Ibid.*

Electro-Magnetism in a Case of Obstruction of the Bowels. The object of the following case is to show the effects, apparently and probably really produced by electro-magnetism. The patient, a widow lady of about 55 years of age, was taken, ten days previous to my seeing her, with bilious vomiting and intense pain in the bowels, accompanied by constipation. The pain ceased in three or four days, but the vomiting continued, and was now stercoraceous. She had been bled to faintness, had taken calomel until the gums were sore, had taken one drop of croton oil every hour, for several doses, besides various other cathartics, and repeated ordinary injection. I found her on the 11th day, without fever, bowels somewhat tender, and vomiting fæcal matter every hour or two. The injections before used had been given with a common syringe and allowed to come away immediately. I used the rectum tube and force pump, but could not throw up more than a quart at once, which, however, was compelled to be retained for half an hour, when it was suffered to pass, and after a little repeated. This was continued for six times, until the injection, which at first returned mixed with fæcal matter, came away, after being kept up an hour, almost as clear as when given. The symptoms nearly the same; there was evident obstruction, and, probably, invagination of the small intestines. I now used Mr. Pike's electro-galvanic apparatus, applying a pole on either side of the abdomen; this was continued for twenty minutes, when there was evident commotion of the bowels, and in ten minutes more was a regular evacuation, thin and small in quantity, but distinctly of a fæcal character and the first in 11 days. The vomiting ceased entirely; two hours after, the battery was again used, and in twenty minutes produced a free operation. A dose of oil operated in the usual time, and the patient rapidly recovered. There was no doubt in my mind but the favorable change was produced by the

electro-magnetism, though more probably by the successive shocks producing muscular action, rather than by electro or magnetic agency.—*N. Y. Jour. Med.*

Medical Examinations in England.—The London Medical Gazette, for March 6, 1846, contains a Report of the number of candidates examined in Great Britain for Diplomas and Licenses in Medicine and Surgery, and the number of such Diplomas or Licenses actually granted.

It appears that during the three years 1842–'3–'4, the Royal College of Physicians examined 161 candidates, and granted 160 licenses, the rejections being 0·62 per cent.

The Royal College of Surgeons examined 1776 candidates and granted 1576 diplomas; the rejections being 1·12 per cent.

The Society of Apothecaries examined 1137 candidates, and granted 953 certificates, the rejections being 16·1 per cent.

The Univerrsity of London examined 114 (first examination) and passed 72, the rejections being 36·8 per cent. On the second examination, the examined were to the passed as 67 to 60, the rejections being 10·4 per cent.

The University of Cambridge granted diplomas to 10 persons, and licensed 9.

Oxford University examined 6 for diplomas, and granted it to them all. Of eight candidates for license 7 passed.

The number of persons licensed to practice amounted, in England and Wales, in three years, to 2,721, viz: 1,576 surgeons, 953 apothecaries, and 192 physicians, being an annual average of 907 licensed practitioners.—*Ibid.*

Large Biliary Calculus.—The person who passed it was a female aged 78 years, of a large corpulent frame, and a biliary temperament. She had symptoms of jaundice on the first of May, 1844. She was attended by a neighboring physician till June 6th, when I was called in. Her skin and every part of her body was suffused with bile, and of a dark yellow color. She complained of pain about the præcordia and right hypogastrium, with total loss of appetite, accelerated pulse, white tongue, thirst, diarrhœa, ash-colored stools, &c.

As she had been thoroughly mercurialised, I put her on the use of a strong alkaline solution, and large doses of the extract of conium, diet of eggs, &c.

By the 17th she was no better; and as symptoms of phlogosis were still manifest, I concluded there must be inflammation of the common duct, &c. I bled her freely, and applied a large blister over the region of the duct, and put her on the use of oxalic acid, half a grain in a cup of cold water every three hours daily.

Under this treatment she improved steadily, so that by the 25th her stools became bilious, and her appetite returned. In a few days she seemed quite well.

She remained free from the disease till the first of October following, when it returned and became fully established. On the 22d she commenced the use of the oxalic acid, on which she placed great reliance. She had taken it about ten days without any relief. Sitting on her chamber at that time, her stools being thin she heard something fall in the vessel like a stone. She rose up and inspected the stool, and there she found the calculus I have sent you.

Her husband washed it off, and undertook to break it with a hammer; but finding it so hard and *curious* he desisted, and laid it up for me. Her jaundice soon disappeared, and she has enjoyed excellent health ever since.

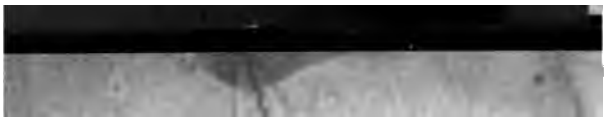
It was originally uniform on its surface, and about as large as an ordinary nutmeg, and of much the same color, but rather more ovate. That part of the outer layer which is absent, was broken off by the hammer in the gentleman's attempt to break it down.

What agency the oxalic acid had in relieving the disease in the first instance, or removing the gall-stone in the last, your readers will of course, judge for themselves.

The calculus weighs now ℥iss; and I presume, before any part was broken off, it must have weighed ℥ij.—*Ibid.*

The Asiatic Cholera.—In a late number we stated that the Asiatic cholera had spread through several provinces of Persia, and had given rise to great mortality in some of the principal towns. It is reported to have extended from Bokhara across the Persian frontier to Herat and Meshid, thence south of the Caspian to Teheran, and still further south to Ispahan. Recent accounts from Odessa, state that it has crossed the Russian boundary, and has appeared at Tiflis, taking a course

northward between the Caspian and Black seas; while according to the latest intelligence from Riga, it has broken out at Orenburg in the Uralian mining district, crossed the Volga, and appeared on the European side at Kasan, about 1200 miles from St. Petersburg. If these accounts are to be trusted, the disease has taken a somewhat irregular course, in a direction west by north; and it does not appear to have followed the banks of great rivers as in the former irruption of 1828–'30. The disease which reached England in 1831, prevailed in Persia for seven years, from 1823 to 1830. It appeared at Orenburg for the first time 1823; and was confined to this quarter for a period of five years. It reappeared at Orenburg in 1829, and its prevalence and fatality in this province were so great, that upwards of one-tenth of the inhabitants were seized with it, and one-fourth of those who were attacked, died. It reached St. Petersburg in July, 1831, and England on the 26th October of that year. At Tiflis, where it is again reported to have broken out, the mortality from the former epidemic was so great, that three-fourths of those who were attacked, perished. We shall take care to report any further information which may reach us respecting the course of the malady.—*London Med. Gaz.* *Med. Examiner.*



THE WESTERN JOURNAL.

NEW SERIES.—VOL. VI.—No. I.

LOUISVILLE, JULY 1, 1846.

FOREIGN CORRESPONDENCE.

London, May 16th, 1846.

GENTLEMEN:—

I have supposed that an account of the curriculum of study, prescribed by the *University of London* for degrees in medicine, would be interesting to the readers of the Western Journal. I am the more inclined to adopt this mode of introducing myself to them from the fact, that my stay in London has been too short to allow of my going into details respecting any of the various hospitals in which this vast metropolis abounds; and I am not yet sufficiently acquainted with the *magnates* in our profession who have congregated in London, to jot down any new or instructive facts in relation to their history, practice, or merits. What I write is the substance of the *Regulations of the University of London for Degrees in Medicine.*

The student, entering the University, produces a certificate to the effect that he has completed his sixteenth year. He is then examined on the following subjects:—Mathematics, natural philosophy, chemistry, the classics, the English language, and outlines of history and geography. He shall not be approved by the Examiners un-

less he show a competent knowledge of the classics, including the English language, history and geography, mathematics, and either natural philosophy or chemistry. This is the matriculation examination, as it is called.

The examination for the degree of Bachelor of Medicine, requires that the candidate shall have been engaged during four years in his professional studies at one or more of the institutions recognised by the University. He is also obliged to certify that he has completed his nineteenth year; that he has taken a degree in Arts in this or some recognised University, or has passed the matriculation examination; that he has been a student two years at one or more of the medical institutions acknowledged by this University, subsequently to having taken a degree in arts, or passed the matriculation examination; that he has attended a course of lectures on four of the subjects embraced in the following list:—Descriptive and surgical anatomy, general anatomy and physiology, comparative anatomy, pathological anatomy, chemistry, botany, materia medica and pharmacy, general pathology, general therapeutics, forensic medicine, hygiene, midwifery and diseases peculiar to women and children, surgery, and medicine. In addition to this it is necessary that he shall have dissected nine months; have attended a course of practical chemistry, and have given sufficient attention to practical pharmacy to enable him to prepare medicines. The fee for this examination is $25; that for the former is $10.

The subjects upon which the candidates are examined are anatomy, physiology, chemistry, botany, materia medica, and pharmacy. It is in this part of the course that "exhibitions" and gold medals are awarded to the successful candidates for honors.

The candidate who most distinguishes himself, and who evinces sufficient merit in anatomy and physiology, or in chemistry, or materia medica and pharmaceutical chemistry, receives an "exhibition" of $150 per annum for the next two years. Under the same circumstances the first and second candidates in each branch receive a gold medal of the value of $25. After studying two years longer, the student is allowed to become a candidate for the second examination for M.B., after he has produced certificates to the following effect: of having passed the first examination, and subsequently to this, attended a course of lectures on at least two of the subjects embraced in the list above mentioned, and for which he had not pre-

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

AUGUST, 1846.

ART. I.—*An Account of an Epidemic Bilious Fever, which prevailed in Indiana in* 1845. By THOMAS W. FRY, M.D., of Crawfordsville, Indiana.

In the summer and fall of 1845, this section of Indiana was visited by an epidemic almost unparalleled in its medical history. It was not confined to any particular localities; but its victims were found sick upon the hills and in the valleys, upon the bluffs of water courses, and the margins of marshy ponds, upon the high, dry, rolling timber lands, and in the vicinity of the stagnant pools of the barrens and prairies. In the early part of the summer there were some severe cases of cholera morbus, and many cases of a mild intermittent fever. Towards the latter part of July remittent and congestive fevers appeared in our midst, and almost the entire population was suddenly stricken with disease.

The object of the present article is to give a brief account of Remittent Fever, the form in which the disease prevailed most extensively. The description must necessarily be imperfect, since the privilege of post-mortem examinations could not be had.

Although the very existence of remittent fever has been denied, it is now known to possess certain characteristics distinguishing it from all other fevers. "The term is employed to designate a fever of which the symptoms undergo at intervals during its course a marked abatement or diminution, which is called a remission;" the paroxysms of fever, followed by remissions, generally occurring daily. The type of the disease of which I am about giving a history, was variant; in some cases manifesting a decided tendency to the intermittent form; in others, running into continued fever. The remissions, at times, were so distinct that they were with difficulty distinguished from intermissions; and again they were so slight, and of so short duration, as to be scarcely recognisable. Intermittent and remittent fevers were, by Cullen, identified. Mackintosh remarks, "that remittent fever is a disease of warm climates, and when the skin is yellow has obtained the name of yellow fever. It may be regarded more properly as forming the mean degree in the scale of periodic or marsh fevers, of which intermittent and yellow fever constitute the extreme points. A more intense operation of the febrific cause than is required for the production of intermittent fever engenders remittent, and the more violent the latter the more remote is its character from intermittent: or in other words, the less perceptible the remissions." This may be inferred from the fact that in countries where this disease prevails, strangers suffer more intensely from it than permanent residents.

The treatment which I pursued having been somewhat at variance with the usual plan recommended by systematic writers, I shall give a detailed history of a few cases, prefacing them with a brief enumeration of the symptoms preceding and accompanying the attack. As a general thing,

there was some previous indisposition, such as headache, languor, loss of appetite, and debility. The tongue was coated in some cases with a white or yellowish white, and, in others, with a brown fur, accompanied with bitter taste, and considerable thirst; occasionally the tongue was red in the centre, and furred on either side. A sense of weight was generally felt in the epigastrium, and tenderness on pressure in that region and in the left hypochondrium. The spleen, in many cases, was evidently enlarged, and may have been instrumental in the production of pain. The pain, however, was never so great as to demand bloodletting; the application of mustard plasters generally afforded relief. The pulse was weak, frequent, compressible, and sometimes irregular; varying very little in frequency, during the remissions, from the natural standard; seldom hard, strong, or bounding, even during exacerbations. Vomiting frequently occurred in the early stages of the disease, yellow, and sometimes, thin green matter being discharged. The urine, in most cases, was scanty and high colored, producing a burning sensation as it passed.

The attack, in almost every instance, was ushered in by a sense of chilliness, generally recurring at intervals of forty-eight hours, evidently showing the type to be tertian. There was, however, some variation in this respect; occasionally there were diurnal exacerbations and remissions, the exacerbations being much more severe on alternate days. The mind was generally clear, sometimes confused, with occasional bursts of delirium. In a few cases there was "the striking peculiarity noticed first by Robert Jackson, M.D., in 1817," and subsequently by Joseph Brown, M.D., in the Encyclopædia of Practical Medicine, "in which the mind retains its acuteness of perception and vigor of reasoning, but there is one erroneous impression so firmly fixed that no argument can shake it." In one case the individual imagined his head and limbs to be separated from his body and occupying different localities; he was afraid to take food or medicine lest his stomach should not be in the proper position for its reception. Many

were deeply impressed with the idea that the disease must necessarily terminate fatally. This impression operated powerfully in retarding the progress of recovery, but was not often realized. The vast amount of sickness threw a gloom over the whole community, which produced desponding impressions on the minds of all patients.

Cause.—The conflicting opinions on this subject would indicate that the cause of intermittent, remittent, and continued fever is still shrouded in mystery. The generally received opinion, that malaria is the cause of fever, has been controverted in an able article on the Pathology of Fever by Robert Willis, M.D. It is remarked by Dr. Willis that "the problem of the highest interest in medical science that waits for solution at the present moment is, perhaps, this:—To explain the cause of the unhealthiness of so many tropical climates, and of alluvial and marshy countries generally, where the summer temperature is high." He continues, "that after a careful study of the subject, he entirely concurs in opinion with those who, from their experience in tropical climates have felt themselves authorised to deny the existence of any specific contagion or miasm, the product of vegetable matter in a state of decay under the combined influence of heat and moisture. As chemists we are perfectly familiar with the products of the decomposition of vegetable substances under such circumstances, and as physiologists with the effect of gases then evolved upon the animal economy, which certainly bears no resemblance to the phenomena of remittent and intermittent fever. According to my ideas, marsh miasm and malaria are nothing more nor less than moist warm air—air, excessively moist, considered in connexion with its own temperature, and the temperature of the human body." In support of this opinion he alludes to the experiments of M. Delaroche, which go to prove that animals confined in stove rooms experience more speedy and fatal effects when the air is moist and of a high temperature

than they do when the air is hot and dry. Death, however, is the result in both instances, but is produced in different ways;" in the former they die as they do when covered with an impervious glaze; "the conditions necessary for the excess of oxidised plasma, and the removal of deoxidised plasma are wanting, and life ceases as a matter of course." He also alludes to the unhealthy regions on the western coast of Africa, where the mean temperature is about 80° Fah., and the atmosphere close upon the point of saturation with humidity; here man is on the verge of circumstances that are even incompatible with existence. The sudoriparous glands, he contends, present a larger quantity of watery vapor than can be taken up by the surrounding atmosphere, with sufficient rapidity to meet the wants of the system in its state of excitement; fever ensues, and life is almost of necessity the forfeit. Those mysterious powers spoken of by tropical writers as solar and lunar influences are, according to Dr. Willis, nothing more than effects of exposure to the sun's heat and the increased moisture of the air which follows in the temperature of the night season. This heat, aided by moisture, produces functional derangement of the skin, which prevents the free access of the oxygenated plasma so necessary to the existence of life.

To this forcible and ingenious article of Dr. Willis it is replied by Dr. McWilliams, late senior medical officer to the Niger Expedition: "That heat and moisture are conditions of the atmosphere which readily admit of quantitative determination, by methods in common use; and if fever were caused by them alone in Europeans in the tropics, it should prevail whenever their amount is the same. Now by reference to the meteorological tables in my work, the temperature and dew-point outside the niger, where no fever occurred, and while in the river, were as follows:

	Tem., 3 p. m.	Dew-point, 3 p. m.
Passage from Sierra Leone to Arca	87·77	70·61
Outside Niger from 9th to 12th August	70·00	73·70
In the river and ascending to Abek	80·00	74·00
At Abek, Idduk, and the confluence of the Niger, and Tchadda, to Sept. 21st	84·60	73·50
Confluence of the Niger and Tchadda to Egga	86·60	72·00

Thus, though the expedition was exposed from the first of July to the beginning of August, to air containing more moisture, and but little inferior in temperature, at the hottest part of the day, to any experienced within the river, not a case of fever made its appearance until the 4th of September, three weeks after it entered the river, and had been exposed to the emanations from the ordinarily recognised sources of malaria. Similar results have been observed elsewhere; in Barbadoes, for instance, no fever occurred among the troops in the garrison during August, September, or October, 1841, and although in November a very violent fever broke out, the temperature of the air was lower than in August, and the dew-point lower than in September. Their means were as follows:

	Temperature, 3 p.m.	Dew-point, 3 p.m
August,	83·77	70·61
September,	82·13	73·78
October,	82·31	72·67
November,	82·83	71·67

"Hence, he concludes, the connexion between heat and humidity of the atmosphere and severe remittent and yellow fever is by no means so clear as Dr. Willis would have us suppose." Many other facts are related by Dr. McWilliams in relation to the West coast of Africa in direct opposition to those of Dr. Willis.

As to the cause of the general prevalence of the disease in this region of country my mind is not fully satisfied. In many parts of it there exist most of the ordinarily recognised

sources of malaria; in many others none at all, or if any, to a very limited extent. One fact, however, I observed, which may have had some agency in generating the specific poison. There were frequent showers of rain, followed by a very hot sun, which produced an unusually rapid decay of vegetable matter. This was observed more particulary in the latter part of the season when the leaves of the trees were beginning to fall.

The mean temperature of those months in which the sickness prevailed most extensively, was as follows:

July, - - - - - -	76·84
August, - - - - -	76·86
September, - - - - -	67·18
October, - - - - -	55·96
November, - - - - -	43·43*

In July the thermometer ranged, at 12 o'clock, throughout the whole month, from 70·67 to 94·00, never falling below or rising above these points.; in August its range was from 70·00 to 91·00; in September from 55·00 to 86·00. By far the greater number of cases occurred in August and September, months in which dews are generally heavy. The attacks generally followed exhausting fatigue, exposure to a hot sun, or the damp night air. What agency malaria had in producing the disease I could not determine, since it prevailed as extensively in those sections of country esteemed healthy, as it did in those that were considered malarious.

Case I.—Mrs. Vanarsdale 45 years of age, a woman of uncommon health and strong constitution, was taken 13th July with severe headache, pains in the loins and lower part of the back, a general feeling of lassitude, dizziness on rising, slight

* Taken from the Meteorological Tables of Rev. William Twining, Professor of Mathematics in Wabash College.

nausea and oppression about the epigastrium, intelligence good. Gave an emetic of ipecacuanha, which relieved the stomach of a large quantity of bilious matter; calomel and rhubarb of each grs.viii, to be taken at bed time.

14th. The medicine produced several stools; the patient passed a restless night; skin hot and dry; tongue coated with a brown fur; thirst great; giddiness; considerable prostration; bitter taste; no tenderness in the epigastrium, but a severe sense of weight there; severe pain in the head, but no delirium; anxious expression of countenance; pulse weak and frequent. Calomel and Dover's powder of each grs. iii., to be taken at intervals of three hours, through the day, followed by a small dose of castor oil in the evening.

15th. Passed a more comfortable night; intelligence good; slight moisture on the skin through the night; mouth still dry; no appetite; some thirst; headache; eyes dull and slightly tinged with yellow; stools green and liquid; considerable exacerbation towards evening, with tenderness in the epigastrium, which is relieved by the application of mustard; stools still liquid and green. Two powders as on yesterday; spts. nitre with a small addition of ipecacuanha every two hours through the day.

16th. Headache much less severe; intellect perfectly clear; no nausea; mouth clammy, not so dry; free perspiration through the night; stools consistent; no return of pain in the epigastrium; pulse frequent and compressible. The condition of the patient seeming to demand quinine, a small portion was given, but as it was not borne well, was omitted, and the nitre and ipecac. continued. Blue pill and rhubarb at night.

17th. General condition much improved; remission more distinct; still very little appetite. Quinine grs. ii. every two hours, till ten grains have been taken.

18th. Slept well; skin moist; tongue cleaning off; appetite a little improved; urine, which up to the present time had been scanty and high colored, is clear and more abundant; stools less frequent and more consistent. Quinine to

be continued as yesterday. The patient, though apparently free from disease, remained weak for several days, when she was attacked with diarrhœa, followed by severe paroxysms of fever. These symptoms were relieved by a similar course of treatment, in about the same length of time.

Case II.—Mrs. Walton, 38 years of age, had enjoyed but poor health for some months, and for several days previous to the time when I first saw her, had suffered from severe headache and nausea, accompanied by occasional vomiting of bilious matter; a sense of weight in the epigastrium, and pain in the left hypochondrium, and pains in the back and loins. On the morning of the 13th August I found her laboring under the above enumerated symptoms. Skin hot and dry; tongue thickly coated with yellowish white fur; excessively bitter taste; extremities cool; chilly sensations running up the back; the mind slightly disturbed; bowels bound; pulse moderately full and frequent. An emetic of ipecac. was given, by the operation of which a large quantity of bile was discharged. Blue pill at night, to be followed by castor oil in six hours.

14th. The condition of the patient is more comfortable than it has been for several days, but the sense of weight and tenderness is not entirely removed; pulse is feeble and frequent; tongue thickly coated; great oppression; several scanty, liquid stools; slight nausea; skin dry; some thirst; conjunctiva yellow; urine still scanty and high colored; some chilly sensations in the forenoon; mind in a better condition, but when interrogated the patient weeps. Spirits nitre and paregoric to be given through the day; blue pill and rhubarb at night; mustard to be applied to the extremities and epigastrium.

15th. Pulse and urine as yesterday; stools less frequent and more consistent; pain in the head continues about the same; slept but little; the face and upper part of the body a little moist; considerable prostration. Quinine gr. i. ordered to be given every hour, but could not be taken in conse-

quence of increased febrile excitement. Spirits nitre and ipecac. substituted; another dose of blue mass and rhubarb at night.

16th. The paroxysm of fever passed off with copious perspiration; tongue still coated with a white fur; cephalalgia very slight; no epigastric tenderness; pulse moderately full and soft; urine more copious and more of a straw color; no appetite; some thirst; although there is a general modification of the symptoms, the mind is fixed upon the necessary fatality of the disease; mouth clammy; stools more frequent. Blue pill grs. iv, rhubarb grs. iv, every three hours till there is free discharge from the bowels.

17th. Three doses of blue mass and rhubarb acted well upon the bowels, after which there was some refreshing sleep; tongue still furred; skin soft; thirst diminished; desires a little chicken broth; discharges from the bowels becoming too frequent; Dover's powder grs vi checks them; quinine grs. ii every hour for six hours.

18th. Strength slightly increased; passed a tolerably comfortable night; thirst moderated; appetite some better; tongue cleaning off; countenance more cheerful. Chicken broth for diet, and quinine grs. v to be taken in the course of the day.

19th. Slight exacerbation yesterday evening, but less than on any preceding day; intelligence perfectly good; no cephalalgia; pulse approaching a natural standard; she continues weak; wine and mild diet recommended. Visits discontinued. Patient improved for several days, when she was seized with severe pains in the bowels, followed by frequent and slight discharges of bloody mucus, but these symptoms were soon relieved by the ordinary remedies.

Case III.—Mrs. Quick, 34 years of age, very much worn down by the fatigues of nursing a sick family, was taken on the 28th August with a slight chill, followed by a severe paroxysm of fever, cephalalgia, delirium, and great restlessness. The attack was preceded by several days of languor and

general indisposition. The sense of weight and tenderness at the epigastrium and hypochondrium, present in all the cases to which I was called, was rather greater in hers than usual; considerable prostration and a tendency to stupor also marked her case. Ipecacuanha was given in sufficient quantity to excite free vomiting, and an unusually large quantity of bilious matter was thrown up. Calomel and rhubarb of each grs. viii, to be taken at night.

29th. The powder taken acted freely on the bowels, carrying off much dark, offensive matter, greatly to the relief of the head and back; pulse weak and frequent; tongue coated with a brown fur; mouth dry; much thirst; sense of weight and tenderness diminished; urine scanty and high colored; mind slightly wandering; skin dry, but not so hot as yesterday. Spirits nitre and ipecac. to be given every two hours through the day; a dose of aperient pills at night.

30th. No distinct chill yesterday; an exacerbation in the afternoon, which went off with excessive perspiration; rested badly; drowsy this morning; tongue still coated and clammy; urine more freely discharged; no delirium, but considerable restlessness; giddiness upon rising; no appetite; thirst. Prescription as yesterday; blue pill in place of the aperient.

31st. Chill came on yesterday about 11 o'clock, lasted for several hours, and was followed by high fever, delirium, epigastric tenderness, and cephalalgia; had passed a restless night; slight remission this morning. Mustard applied to the extremities and epigastrium; the nitre continued, and rhubarb and jalap given in sufficient quantities to act freely on the bowels.

Sept. 1st. Paroxysm of fever yesterday evening much less violent than that of the preceding day. Bowels were freely opened; skin softer, with some moisture on the face and upper part of the body; mouth less clammy; conjunctiva tinged with yellow; countenance expressive of anxiety; intelligence good; no appetite; no cephalalgia. The remission was so distinct as to justify the exhibition of quinine,

which was given in two grain doses every hour for five hours. Blue pill and rhubarb at night.

2d. Considerable improvement from yesterday. Patient rested well through the night; perspiration copious to-day; no headache; tongue cleaning off; some appetite; slight improvement in strength; no thirst; intellect perfectly clear. Quinine continued.

The patient continued feeble for several weeks, occasionally suffering from slight paroxysms of fever, which were finally relieved by the use of quinine.

Two cases committed to my care terminated fatally, but as post-mortem examinations were not permitted, it is unnecessary to write them out in detail. One of them was complicated with thoracic disease.

The General Treatment of Fever.—Bleeding. So far as my knowledge extends, bleeding is recommended by all systematic writers, with few exceptions; some, it is true, oppose the use of the lancet upon the ground that the blood is in what is considered a dissolved state. The conviction of the impropriety of bloodletting in the disease as it prevailed here during the past season, was early made on my mind, and I did not employ it in a single instance; but I had an opportunity of observing its effects in several cases to which I was called in consultation. The tendency to sink was generally very great, and the prostration consequent upon free bloodletting was truly alarming, requiring all the powers of medicine to bring about reaction. In former years I have used the lancet with most decided benefit.

Emetics.—Many writers condemn the use of emetics in remittent fevers. Dr. Mackintosh cautions young practitioners against their "indiscriminate employment," and remarks "that irritability of the stomach is one of the most frequent and troublesome symptoms, and once excited it is always difficult, in many cases impossible, to restrain it." The sense of weight in the epigastric region, present in all the cases that

came under my observation, indicated to me the necessity of emetics in the treatment of the disease. When emetics were administered in the early stage of the disease, they not only relieved the stomach of its contents, but exerted a controlling power which was shown in the modification of every symptom. In a few cases some irritability of the stomach was excited, which was easily controlled by the application of mustard to the epigastrium, followed by cloths saturated with laudanum to the inflamed surface. Some cases required the internal use of morphine, paregoric, or a combination of laudanum and sulphuric ether. Aperients and anti-periodic medicines acted much more promptly and beneficially when preceded by emetics.

Mercury.—The symptoms of biliary derangement demanded its employment, but not to the extent to which, in this section of country, it is generally carried. It is contended by some, that the course of a remittent fever may be cut short by bringing on the specific action of mercury; but of the utter fallacy of this doctrine I have had ample and convincing proof. In most of the fatal cases of the past season a severe ptyalism had been induced, and where the result was not so unfavorable the mercurialized patients recovered far more slowly than those who were not treated upon that plan. From the quantity of mercury used, it might be inferred, in the emphatic language of Stokes, that the great mass of our physicians belonged to the "hepatic school of medicine, in which the existence of almost every organ, except the liver, seems to be forgotten, and of which the creed seems to be, that there is but one viscus, the liver; one source of disease, biliary derangement; and one cure, mercury; a creed which, though not defended and enforced by the sword, has cost perhaps as much of human life as others whose history is written in letters of blood." The vast amount of unnecessary and cruel suffering inflicted upon large numbers by the abuse of this medicine, calls loudly for

reformation. In many instances the paroxysm of fever returns upon the subsidence of mercurial action. In remittent fever it may be employed in such a way as to avoid its specific effect upon the system, and yet exert a decidedly controlling power over the severity and duration of the disease.

Sulphate of Quinine.—The controlling power of this article over the febrile paroxysm is known to all, but there is some difference of opinion as to the proper mode and time of employing it. During the past summer and fall many opportunities were afforded me of observing the effect of quinine when employed previous to the administration of emetics or cathartics, and without reference to the condition of the chylopoietic organs. The high estimation in which Sappington's pills* were held by the community induced many to use them. In the mildest form of simple intermittents they arrested the disease; but in the severer forms of both intermittent and remittent fever, their employment in the early stages was decidedly hurtful; the periodicity of the disease was frequently broken up, but a more malignant and continued fever supervened. When by the use of remedies previously spoken of there was an amelioration of all the symptoms, a reduction of the inflammatory condition of the system, and more distinct remissions, the sulphate of quinine acted as promptly in arresting remittent as intermittent fever. The first dose generally checked, or greatly modified the exacerbation. As to the size of the dose, medical writers differ in opinion. Dr. Stokes, and many physicians in Italy, on the coast of Africa, and in the Southern part of the United States, have expressed a most decided preference for a single large dose once a day. That this practice is successful in many cases, and in many countries, cannot be denied; but that it is always the best practice, and can be indiscriminately employed, may well be doubted. During the

* Composed of quinine, liquorice, and gum myrrh.

prevalence of this fever I gave it in various doses and at various intervals—in ten grain doses once a day; in four or five grain doses every three hours, and in half grain doses repeated every half hour. But as a general rule its controlling power was more manifest when given in doses of from two to three grains, repeated at intervals of one hour, for six hours previous to the time when the chill was expected. I am fully persuaded that no one mode of administering it is suited to all cases and climates. There are modifying circumstances in all constitutions, and in all countries; and if these are not carefully noted and weighed, the physician cannot prescribe with any degree of certainty.

May 20, 1846.

ART. II.—*Observations on the Topography, Climate, and Diseases of Tipton county, Tennessee.* By R. B. HARPER, M.D., of Portersville, Tennessee.

This district of country lies under latitude 35½° N.; its western border is watered by the Mississippi; it is bounded on the north by Big Hatchie river; Beaver creek and its tributaries pass through the eastern and south-eastern parts of the county. The two last mentioned water courses have extensive low-lands bordering upon them—say from one mile to two miles wide, and besides these there are creeks of smaller size with low lands of considerable extent. The high land extends to the Mississippi on the west, forming a bluff ftom 100 to 150 feet high. The waters do not pass directly into the Mississippi, but perform circuitous routes, passing first into Hatchie and Beaver. The water courses are crooked and their currents sluggish, yet they have cut deeply into the strata, forming high banks on either side. They are subject to inundations in the winter and spring. That part of the county which borders on the Mississippi for

about ten miles back, is very broken; still the land is fertile, and covered with a dense forest, which is unsubdued to a great extent, and perhaps will remain so for a long time to come. The eastern part of the county is more level, and, in the main, a good farming country, well timbered, and settled by a tolerably dense population. The low lands generally are not tillable, being for the most part too wet; and the forests upon them therefore are permitted to stand, constituting, no doubt, one of the most powerful prophylactics of our region. The country back of the large water courses is but little subject to fogs, owing perhaps to the height and density of the forests. The thermometer ranges from 9° to 94°, the temperature being very variable, frequently changing 30° in forty-eight hours, and sometimes in a single day and night. The summer sickness commences usually about the middle of July, and continues until the coming of frost, which we look for early in October. The range of the thermometer in summer is as great as 54°, having been seen as low as 40° and frequently rising to 94°. The form in which sickness generally first appears is that of a mild remittent fever, which is followed in September, or towards the latter end of August, by fevers of a more formidable type, often assuming the congestive character.

PREDISPOSING CAUSES OF FEVER.

A high temperature acts as a predisposing cause of fever by increasing the irritability of the system, and by lessening the power of vital resistance. It tends to excite excessive action in the skin and liver, by which those organs are exhausted, and thereby rendered more liable to the injurious impressions of the various exciting causes of the disease.

Marsh-Miasma.—From the foregoing topographical sketch it will be remarked, that all that is supposed to be necessary for the abundant production of this deleterious agent is present every season; namely, heat, moisture, and dead vegetable

matter. There is at all times a sufficient quantity of moisture and dead vegetable matter. It is then only necessary that the heat be supplied to the extent necessary to produce rapid decomposition, in order to generate an abundance of miasma. And when this is done we are very certain of an incursion from summer fever. I have observed that a general rain, in the sickly season, almost invariably checks the sickness until the weather becomes dry again; and have also observed that there is less fever in a wet than a dry summer and autumn. I well remember that in the first settling of this region of country the people enjoyed much better health than they do at present; and that fevers began to abound more as the timber was extensively destroyed and the land brought under cultivation. Nor is it difficult to account for the change. All the elements necessary to the development of the fever poison were not present; there was an abundance of decaying vegetable matter, but the dense shade by preventing the solar beams from falling on it retarded decomposition so much as to prevent the evolution of malaria. A similar explanation applies to the fact that wet seasons are comparatively healthy; the excessive moisture, in that case, counteracts the formation of the effluvia which give origin to our fevers.

Cold.—This agent has a powerful tendency to kindle disease in subjects who have been exposed to the action of malaria. Its first effects on the system is torpor of the exhalents, and a retreat of the blood from the surface to the internal organs. The excretions are thereby retained, and the blood is surcharged with offensive matter.

PATHOLOGY OF FEVER.

The miasma having been received into the circulation by absorption, and accumulated therein, the atmosphere which is charged with this gas offers an impediment to its exit from the system. The shock is thus given by the poison to the

nervous system, and the force of this is aggravated by cold which also opposes its elimination by the lungs and especially the skin.

The impression made by cold induces a suppression of the perspiratory and excretory functions, which causes the blood to recede from the surface to the internal organs, and with it the deleterious agent, which there renews the attack, and kindles into activity a disease which had been lurking in the system. The deleterious impression thus made upon the nervous system causes depression, languor, dullness, a cold creeping sensation over the body, and especially along the spinal column, general malaise, and, in some cases, severe chills and shivering. The form of fever hence arising will depend on the force of the impression, the vigor of the constitution, temperament and sensibility of the subject. Thus, other things being alike, if the impression be moderate, the stage of depression, or chill, may be of considerable length, and yet the fever succeeding a short one, passing off in a few hours by perspiration. This is a paroxysm of intermittent fever. If the impression be more powerful, the system seems to be roused to the danger, and in a short time makes a violent effort to throw off the offending agent; which effort is partly sustained until the stage of depression of the succeeding paroxysm returns. This is a paroxysm of remittent fever. Again, if the impression be still more powerful, the system is prostrated, and there is a protracted stage of depression, from which the system slowly reacts, and sometimes not all, remaining in an irritable condition until the stage of prostration of the next paroxysm is ushered in. This is a paroxysm of congestive fever.

Periodicity, or remission, is a law of the nervous system; it acts and reposes by turns, and this character is stamped upon all diseases which arise from morbid depressions made upon this system. All essential fevers exhibit this tendency, and in one type, the intermission is complete. All diseases located in the nervous system are intermittent, although the cause may be permanent. In a favorable condition of the

system, several of these paroxysms of febrile phenomena may pass over without any special local inflammation. Yet in summer fevers, the liver, as well as the skin, having been previously overexcited by the solar heat, is most likely to receive the weight of the morbid impression made by the malarious poison. Its secretion is interrupted, and its circulation thereby retarded; and as the blood of the abdominal viscera passes through the liver in its return to the centre of the circulation, it is plain that engorgement will take place in them, which if not relieved will be followed by inflammation or some other lesion. The knowledge of these facts attracted the minds of medical men to the importance of exciting the secretion of the liver in the treatment of fever.

Fever, according to Eberle, cannot exist without capillary irritation, or derangement of the secretory and excretory functions. In one case, this condition being kept up for a certain period, inflammation is developed in the mucous membrane of the stomach and bowels, and becomes an independent focus of irritation, reacting upon the cerebro-spinal axis, increasing and perpetuating the morbid action; and although the secretion of the liver be restored, the fever will continue, the inflammation still existing, and having now become a cause, instead of a consequence, of congestion of the the abdominal viscera. This constitutes gastric remittent fever.

In another case, the liver being particularly predisposed, becomes irritated and inflamed, and is thus rendered less capable of performing its healthy functions, and creating a new focus of irritation, which is the condition of things existing in hepatic remittent fever.

GASTRIC REMITTENT FEVER.

Symptoms.—After a premonitory stage of longer or shorter duration it commences with a chill, followed by fever, which may pass off by slight perspiration; yet on the evening of the next day a slight fever occurs, which is not entirely off

at the return of the chill on the third day; which takes place generally between 8 and 12 o'clock in the morning. After a few paroxysms of this kind, usually at the commencement of the third chill, vomiting occurs, and continues till reaction is fairly established, which is often from two to four hours; and this is sometimes followed by purging. The fluid vomited mostly consists of the drinks that have been taken; but in some cases bile is thrown up. If the disease is not checked, the succeeding paroxysms may be attended with vomiting and purging of blood, and in some cases the sanguineous discharge is abundant. This variety of fever generally assumes the double tertian type, one paroxysm occurring in the morning, and the other in the evening. The tongue is often covered with a white fur, sometimes, however, with a yellow one, which, during the first few paroxysms, is moist, but afterwards becomes dry during the paroxysm: and when the disease assumes the chronic form, the white fur gives place to a dry brown coat. Sometimes this form runs into the congestive type, and when this occurs the tongue is not so dry but is still coated, and when the disease takes this course I have seen patients vomit quarts of a fluid as blue as indigo. In the commencement of this variety of febrile disease there is generally considerable pain in the head during the height of the fever, and after a few paroxysms, soreness of the stomach and bowels on pressure. The breathing is irregular during the paroxysm.

Diagnosis.—This form of fever is distinguished, first from the congestive, by its having a regular stage of excitement after each chill, and less sweating. The countenance and general surface are fuller than in congestive fever, and the tongue is also drier. This variety is attended with more pain, especially in the bowels, and with more acute feeling generally, than the congestive form. It is distinguished from the hepatic variety by its having a chill before every other, and, in some cases, every paroxysm, with an intermission, in some cases, and in others a distinct remission. The skin and

conjunctiva of the eyes are not so yellow in this as in the hepatic type of fever.

Treatment.—The principal indications to be fulfilled in the treatment of remittent fever are: First, to moderate the febrile action, if it is excessive; secondly, to allay irritation, remove vitiated secretions, and, if there be a remission, or intermission, to prevent a recurrence of chill; thirdly to obviate gastro-intestinal irritation, and restore the healthy functions of the liver and alimentary canal. To fulfil the first indication, if the countenance is flushed, the pulse full, strong, firm, or corded, there can be no doubt as to the propriety of the use of the lancet; and if the venesection be performed at the commencement of the attack, if the patient be in a sitting posture, and the orifice be made large, there is no danger in permitting the blood to flow until the pulse is felt to give way perceptibly under the finger. If the circumstances just enumerated are present, there will be great benefit from the use of the lancet to the proper extent; but there are many cases in which it cannot be resorted to with advantage. I am inclined to believe that the countenance is a good guide in some cases where the pulse fails to admonish us. Where it is flushed, and the skin dry, unless the patient has been bled freely, or is very much exhausted by the disease, or is of feeble constitution, bleeding will be proper to some extent, and that extent must be determined by the physician himself.

To fulfil the second indication, after venesection, or, without it, if this be deemed unnecessary, cupping over the stomach, liver, and spleen, with or without scarification, (if the patient is very weak it is best not to scarify), will almost invariably quiet the stomach, so as to enable it to retain medicine; provided a hot foot-bath be used at the same time. If there be much vomiting my practice is to give a dose of ipecac. sufficient to operate freely two or three times, and the most suitable time for giving it I have found to be immediately after a spell of vomiting. The stomach after the operation of

the ipecac. will be much more easily quieted by other remedies, among which I have used with advantage for that purpose mustard poultices applied over the stomach and liver, and suffered to remain until the skin is made very red. After this twenty drops of laudanum, with six drops of essence of peppermint, may be administered every hour until the vomiting is arrested. I have checked obstinate bilious vomiting promptly by applying a mustard plaster along the spine, and a hot foot-bath for twenty minutes, with a blanket thrown over the tub and the knees of the patient, when other remedies would not have succeeded without this adjuvant. To moderate the febrile excitement, and equalise the circulation, my plan is to give a teaspoonful of spirits of nitre every two hours, and sponge the extremities with equal parts of warm vinegar and water, or weak lye also warm, as often as may be necessary, say every hour, or once in two, three, or four hours. This hastens the sweating stage, which terminates the paroxysm. These applications should be made freely and often, where they are necessary, and in bad cases should be extended over the whole body. After the irritation is sufficiently allayed, I give powders composed of calomel grs. vi, Dover's powder grs. vi, every three hours, until three or four have been taken. If they do not operate sufficiently in three hours after the last is taken, I give oil to assist the operation. If the medicine operates more than five times freely, it should be checked by laudanum or opium. If the chill should return while the medicine is operating, it will aggravate the symptoms of the succeeding paroxysm; the operation therefore should always be checked before the chill is expected. This course should be followed up every thirty-six hours, until the secretions become free and healthy, especially from the liver and alimentary canal, or until the fever is checked by means to be used during the intermission. When the patient has once been salivated, or his system is easily affected by calomel, its effects should be closely watched, and never carried to the extent of producing ptyalism, if it can be avoided; for calomel produces all its good effects

in fever short of this condition. I am partial to the blue mass in patients who are easily salivated, or who have been severely mercurialized, as I believe it is not so apt to excite the state called dry salivation, or to produce eating ulcers in the mouth. This substance, or calomel given in small and repeated doses, until a sufficient quantity is given, and worked off when the system is freest from irritation, while its effects are fully ascertained before more is given, produces a much better effect than when given in large doses. The successful operation of the medicine depends upon the promptness with which the irritation of the stomach and bowels is allayed; and I have found no medicine to answer this purpose better than opium. The injury said to be produced by it upon the brain, I have never seen follow its use under the above circumstances. The delirium is no greater after, than before it was given; but the ease experenced by the patient is almost indescribable. The torpor of the bowels, feared from its use, does not follow when given as directed above. It is only to be given where it is necessary to restrain the action of the bowels, and this is to be done at any time when they are too active, regardless of fever. I very often use pulv. Doveri and calomel in small doses, (say one or two grains each, and if necessary add half a grain of opum), to be given every hour or two. I am partail to this form of opiate on account of its tendency to act on the skin.

In recent cases, and all others at any stage, when there is no positive indication of inflammation of any important internal organ, during the remission, which is followed by a chill, I give quinine v grains, pulv. Doveri and camphor each iii grains, in a powder, every three hours, commencing seven hours before the chill, and continuing until five are given; this course should be pursued before each chill; and in cases where there is not sufficient time to give and work off the purgative medicine in time to anticipate the chill with the tonic powders, I have combined the calomel, quinine and camphor. After the time for the chill has passed I give oil

to work the calomel off. The quinine in the tonic powders may be increased when the case requires it, or the composition may be varied to suit each particular case. I have thought that the camphor not only acted as a narcotic stimulant, but modified the tendency of the quinine to act upon the brain. This course should be pursued before each chill, until the system is clear of disease, unless the case becomes complicated by inflammation.

In cases where the tenderness of the stomach and bowels on pressure, the dry tongue, and the excitement, continued from chill to chill, contraindicate the use of quinine, I give a powder composed of camphor and pulv. Doveri each iii grs., calomel iv grs., every three hours, commencing seven hours before the chill, until four are given, and in two hours afterwards give oil to work them off. This course should be repeated before the next chill; and in addition a mustard plaster applied the whole length of the spinal column one hour before the chill, and allowed to remain until the skin is very red, exerts a happy influence. The mustard employed in this way has a powerful tendency to prevent a chill, and even to stop it when it is on the patient, by communicating its stimulating influence to the heart and arteries. I have seen the chill arrested in fifteen minutes by its application when the patient had been shaking severely for some time.

Third. When the above named symptoms of tenderness of the stomach and bowels, dry red tongue, &c., are present, great benefit will be received from cupping freely and frequently over the abdomen, after each application having a poultice thinly spread, and sprinkled with mustard, applied so as to keep the skin red and moist. This retains the blood upon the surface and thereby relieves the internal organs. The sponging spoken of above should also be freely employed. Gum water or slippery-elm water is the most eligible drink, and may be used cool. Nor is a moderate use of plain water objectionable, although the patient may be taking calomel. I have never seen any bad effect from its use and

my practice is to allow my patients to use cold water freely. No drink in my opinion is equal to it in a hot burning fever, and so far from being prejudicial, it will often facilitate the favorable operation of calomel, while, most assuredly, according to my experience, it has no tendency to bring about salivation.

If the disease seems likely to assume a chronic form, a pill composed of six grains of blue mass, one grain of opium, and two grains of ipecac., may be given every three hours until four have been taken, followed in three hours by a dose of oil, with twenty drops of spirits of turpentine, unless the bowels are moved sufficiently without it. This course should be repeated every thirty-six hours, until the secretions become healthy, and the tenderness is relieved. It is beneficial to use the plaster to the spine every twelve hours or oftener, and the cupping and poultice as directed above. If the symptoms do not improve under this treatment in thirty-six or forty-eight hours, a large blister should be applied, after cupping, over the soreness; and if the head is affected the back of it should be shaved, as high as the occipital protuberance, and a blister four inches wide laid across from ear to ear. If the patient is not much exhausted, and the head hot, he may be scarified and cupped behind the ears, before the blister is applied. Mustard plasters of large size may be applied to the calves of the legs freely, and a blister on the inside of each thigh, above the knee. I think this a much better situation for blisters than the ancles, for there is not the same danger of producing troublesome sores when applied to the former. When bloody purging attends, opium and calomel, with the external applications directed above, given in two grain doses each every two hours, the opium being increased or decreased according to circumstances, will be found to accomplish all that may be expected of medicine. It is scarcely worth while to speak of the extent to which this medicine should be pushed. Medicine should be limited by the effect, and not by the quantity. If it is

given in broken doses, and time allowed for the previous dose to have its effect, before another is given, there is no danger. When the bowels are checked they should not be moved under twenty-four hours, and then it is preferable to use the syringe.

THE CONGESTIVE VARIETY OF BILIOUS REMITTENT FEVER.

This is a more fatal form of fever than the preceding, though the type is the same, except that the chill oftener precedes the fever every day than in the former. The chill continues from one to twelve hours before the excitement follows, and sometimes reaction never takes place. In some cases the first chill differs from the ordinary intermittent only in being more protracted, and the system remaining more prostrated; it is therefore very important that the practitioner who is not acquainted with this form of fever should be on his guard, for the patient may die in the next regular paroxysm. The excitement which follows the stage of depression is not, generally, very great; the extremities remain cold, and the surface shrunk; and in most cases there is a copious perspiration exuding from the skin, warm when the skin is warm, and cold when it is cold. Sometimes this perspiration only appears when the sickness is great. Sometimes the stomach and bowels are irritable. When vomiting is an attendant, it is more aggravated during the paroxysm. The fluid vomited consists mostly of the drinks taken; the operations from the bowels are large and watery; the countenance is ghastly and expressive of anxiety; the lips generally blue. The eyes are sunken; the tongue is moist, flabby, and not very thickly furred. The senses are generally not much affected, but occasionally the patients become delirious as soon as the fever rises, and sink into a state of stupor, from which it is difficult to rouse them until the paroxysm is over. In such cases there is less purging and less vomiting, till the fever begins to subside. The breathing is frequently performed by a long deep sigh; and when stupor prevails

the breathing is more laborious still. The patient is generally restless, but does not suffer much pain.

We have a great many cases which vibrate between this and the preceding variety. It is only necessary in these to modify the treatment according to circumstances.

Diagnosis.—In this varety, the chill is more protracted; the excitement which follows is not so great, or so regular; the surface is more shrunk; the extremities are much cooler; and the perspiration is more profuse. The tongue is also moister than in the preceding variety. It is distinguished from the hepatic variety by there being in it a more general perspiration, less excitement, a marked state of intermission, or remission, and a general sunken appearance of the countenance.

Treatment.—In this variety the three indications are:—First; to allay the irritation of the stomach and bowels. Secondly; to moderate the excitement where this exists, or if reaction be not established to promote it; and thirdly, to prevent the recurrence of the paroxysm.

To fulfil the first, the same remedies prescribed in the preceding variety may be employed; viz: an emetic; and the vomiting over, laudanum and essence of peppermint, cupping, mustard plasters, followed by a cloth wet with laudanum to the stomach and bowels, and to the spine and legs; a strong warm salt-water enema, followed after it is discharged, by a cold one made mucilaginous by slippery elm.

2d. After the irritation is sufficiently allayed, a powder composed of pulv. Doveri and camphor, each three grains, and calomel six grains, may be given every three hours until four are taken, and if the stomach still be irritable opium may be added to the prescription. In cases where the intermission is not sufficiently long to admit the use of quinine as heretofore directed, five grains may be added to the powders which should be given at such times that the last would be taken one hour before the chill. Cathartics are to be used

sparingly in this form of fever, but if the bowels are not moved in six hours after the last powder is given, oil should be taken with twenty-five or thirty drops of spirits turpentine; or an enema may be used, and the oil postponed until after the chill has passed, together with its accompanying irritation. I combine camphor with all the calomel I give in this form of fever. If the powders cannot be borne with the quinine, that article may be left out, and the powders given without it; but this will rarely be necessary, where the case is one indicating the use of the quinine. When the reaction is broken, it is well to rub the surface with warm vinegar and cayenne, and strong salt-water or tincture of camphor, alternately. The rubbing should be resorted to every hour, and should be brisk, done under the bed-clothes, and diligently kept up until reaction is fairly established. In addition to the above, I apply the mustard plaster to the spine and legs, as directed in the former variety. It has a powerful effect in rousing the nervous system. But if the system should sink into a complete state of collapse, or should it be in that state when the physician is called, the cold douche should be resorted to; and if reaction does not take place in an hour and a half, may be repeated. This will sometimes succeed when nothing else will, and should never be neglected in cases demanding it.

3d. To fulfil the third indication, I use the same means recommended for this purpose in the preceding variety, with an increase of the quinine in the powders to eight or ten grains. These powders should be commenced as soon as the intermission or remission is sufficiently distinct. The powders should be given every three hours, and so timed that one will be given one hour before the chill, and if the chill should return sooner than it was expected, a portion should be given as soon as it is felt. In these cases we are not to wait for all the favorable indications for giving quinine laid down by the older writers; but are to risk everything else rather than the chill. It will be found that there are but few cases in which tonics are necessary that the powders

will not be retained, provided the collateral treatment, heretofore spoken of, be attended to. I often add calomel to the powders when the secretions are disordered. This course should be pursued in the intervals unless something should contraindicate it; such as a stomach too irritable to retain the medicine, severe pain in the stomach or head, &c. In such cases, which are but few, the camphor powders mentioned above should be substituted.

When patients sink into stupor, I use the same means directed for this condition in the preceding form of fever, with the addition of stimulating enemata every three or four hours. I am well satisfied that they act as powerful revulsives upon the brain in cases of this kind. After the patient becomes convalescent, he should take an occasional blue-pill and some tonic, for some time, such as Peruvian bark, columba, gentian, and rhubarb in wine, &c., to prevent a relapse, which is very apt to take place both in this and the preceding variety of fever, without this precaution.

HEPATIC VARIETY OF REMITTENT FEVER.

Symptoms.—This variety generally comes on with feelings of languor and dullness which last for several days before the attack is fully evident. The next stage is ushered in by chilliness, pain in the head, back, and extremities, which symptoms are soon followed by high fever, strong pulse, flushed countenance, severe pain in the head, and sickness at the stomach. These continue, with slight remissions in the mornings and evenings, for several days without any symptom of chill. Great restlessness attends, with general aching, intense thirst, and furred tongue, but the fur in a few days becomes brown and dry in the centre.

This form is generally easily managed in the commencement, and is treated successfully by a variation of the treatment laid down for the former varieties; adapting the treatment to the symptoms. Bleeding, cupping, mustard, and blisters, calomel, spirits nitre, acetate of ammonia, sponging, slippe-

ry elm water, and cold water, and quinine, &c., in the last stage, if admissible, constitute the proper means.

There is a condition in the last stage of this fever in which calomel will fail to excite the action of the liver, unless assisted by other means. In such cases it will be found that extensive irritation of the surface by mustard, a mustard plaster along the spinal column, and camphor, and if necessary Dover's powder combined with calomel, will bring the system into a condition to receive the impression of the mercurial.

April 22d, 1846.

ART. III.—*A Case of False Aneurism of the Brachial Artery, on which an action was brought for Malpractice, with recovery of damages.* Reported by E. D. FOREE, M.D., of New Castle, Ky.

At the July Term (1844) of the Henry Circuit Court, New Castle, Kentucky, Hon. Judge Pryor presiding, Boon Regland, through his attorneys, Wilson & Buckley, complained, that Dr. Geohaghan had negligently, carelessly, or unskilfully wounded an artery at the bend of the right arm, which had caused a false aneurism, thereby producing to him much pain, long suffering, and a partial loss of the use of his arm, making it necessary for him to expend much money in procuring its restoration; upon which plea he claimed of defendant, in money, a fair remuneration for the injury.

The defendant, Dr. Geohaghan, through his attorneys, Nuttall, Webb, and McHenry, plead not guilty, whereupon the following proof was presented to the jury:

Mr. Ferris, student of defendant, testified, that Dr. Geohaghan is a practising physician of this county; that about the 12th of last November the plaintiff came to defendant's office and asked witness if he could bleed, adding that his physician, Dr. Goslee, had directed him to lose blood. Wit-

ness replied that he could, but being engaged, defendant rose from the bed upon which he was resting, corded plaintiff's right arm, and bled him. The blood was venous in its appearance and flowed in a large regular stream, without any jetting impetuosity; the orifice was dressed in the usual mode; the flow of blood was easily arrested; patient complained of faintness, but of nothing else, and left defendant's office after the lapse of a few minutes. The second day afterwards he returned; the arm was now much swollen, and straw-colored; plaintiff complained of its being very painful, whereupon a poultice was directed by defendant. A week or ten days subsequently, witness, at the request of defendant, went to plaintiff and solicited him not to submit to amputation which he understood had been advised, proposing to take him to Dr. Dudley, in Lexington, to be treated by him, and to defray all the expenses that might be incurred by the trip.

Mr. Wells testified, that he accompanied plaintiff to defendant's office; saw the latter perform the venesection; thought defendant made the incision very hurriedly; used the thumb lancet; held it between the thumb and index finger; did not rest his hand upon plaintiff's arm.

Mr. Scott affirmed, that he saw plaintiff about two hours after he was bled; he then complained of great feebleness, and of intense pain in the arm, which was considerably swollen about the elbow; saw patient frequently during his long confinement; saw him two or three days after he was bled, when his arm was excessively swollen, the tumor extending to the shoulder in one direction and to the fingers in the other. The limb was of a straw color and very painful. Witness told defendant that he was instructed by plaintiff to say to him, that he would freely forgive him the injury done if he would visit him, (the plaintiff). Defendant did not comply with plaintiff's request.

Dr. Goslee testified, that plaintiff called on him at his office in this town on the 22d November. Witness invited his friend, Dr. Owens, to see the case with him. Patient

told him that ten days previously he had been bled; that the arm swelled very much a few hours afterwards, and was very painful; that the second day after the bleeding he had applied poultices, and had continued them until that time. The limb was excessively swollen and indurated throughout its whole length; was not very tender to the touch; of a straw color, not very painful, but quite hot; had at the wrist a very small, quivering, and thread-like pulse. Witness could not make out a very satisfactory diagnosis, but thought it might be phlebitis; patient had come about eight miles on horseback to see him, and returned to his home the same day. He directed the patient to continue the poultices and wash the arm with a solution of sugar of lead. On the 24th of the same month he visited him at his father's house; found the limb not so much swollen, œdematous, and less painful, applied a bandage which was directed to be kept wet with a solution of sugar of lead; gave a purgative.

29th. Visited him again; found the limb not so much swollen, and its surface cool. Directed rubefacient frictions, and the bandage to be continued.

From that time until the 24th of the succeeding month he visited patient frequently; did not vary the treatment materially, and but little alteration occurred in the state of the limb. Meanwhile, patient's general health rapidly declined. On unrolling the limb, Dec. 25th, coagulated blood passed out through the original orifice, where an ulcer had now made its appearance. Witness then became satisfied that it was aneurism, and sent patient to a surgeon in Louisville to be treated by an operation.

Dr. Drane testified, that on the 26th of December plaintiff called upon him, in Louisville, to examine his arm. Witness believed it to be aneurism caused by injury of the artery. On the following morning, assisted by Dr. Gross, he cut down and tied the brachial artery above and below a wound which they found in it, and afterwards pressed out through the incision 25 or 30 ounces of blood, which had been effused into the cellular tissue of the arm. The disorganiza-

tion of the parts was so great that witness could not ascertain precisely the nature and extent of the opening in the artery, but, judging from the size of the stream of blood which jetted out, it must have been a large one. Patient was much emaciated, and so enfeebled that that he could not stand or sit upright; had no pulse in radial artery; remained in the care of witness three months, when he was discharged nearly convalescent. The charges of witness and Dr. Gross for medical attendance on plaintiff were $150; the other expenses incident to his stay in the city were not less than $50. Dr. Drane on being asked, said he believed the defendant to be a well-informed physician, though has no personal acquaintance with him; thinks such accidents must always occur as the result of carelessness, or unskilfulness; they have happened to distinguished surgeons, but never ought to occur; with care can always be avoided. A vein may be transfixed, and an artery wounded, and yet by a change of relative position of the two vessels the arterial bleeding not be manifest.

Dr. Wright testified, that he had known defendant several years; believes him to be a good physician, and a dexterous surgical operator.

After several able speeches by the attorneys, the case was submitted to the jury; after an absence of half an hour they brought in a verdict of $275 for the plaintiff which was confirmed by the Court.

The surgical interest of the foregoing case is not inconsiderable. In it we are presented with evidences of a simultaneous transfixing of a vein and wounding of an artery, without any of the phenomena usually resulting from such accidents.; the flow of blood, *per saltum*, the early formation of a defined tumor, and escape of arterial blood, all being absent; nor was there any pulsation, either at first or subsequently, in the swelling, or any symptom, or physical state of the limb which led either of the physicians first in

attendance to suspect the existence of aneurism until the forty-third day after the reception of the injury; when, blood having escaped through the ulcerated orifice, aneurism was suspected. Moreover, Dr. Goslee testifies, that pulsation in the arteries of the wrist was present at his first examination and on several of his succeeding visits, thus still further embarrassing the case, and showing how very difficult it occasionally is to make out a satisfactory diagnosis from the symptoms and physical appearances present at the time, without a faithful and intelligent history of the whole case. So ambiguous were the symptoms here, that, even after the arrival of the patient in Louisville, a distinguished surgeon who saw him pronounced that the tumor was not an aneurism, but a diffused abscess in the cellular substance; nor could he be convinced until an incision was made into the parts and the blood brought to view.

The case is interesting in another point of view. It shows the law rigorous and prompt in imposing penalties for the careless or the unskilful practice of surgery, while it makes no provision for the attainment of surgical knowledge. It exhibits the Commonwealth as punishing its citizens for not understanding anatomy, while it punishes them if they are detected in the study of anatomy. A surgeon is fined, if, in bleeding a patient, his lancet chances to go too deep and pierce an artery lying in its range; and he may be fined, also, if convicted of having dissected other human bodies than those of criminals for the purpose of learning where the arteries are. Truly, whatever may be said of the "majesty" of the law, in this regard much cannot be said in favor of its consistency.

June, 1846.

ART. IV.—*Notes on Medical Matters and Medical Men in London.* By DAVID W. YANDELL, M.D.

In my last letter I said a few words about England's great surgeon, Robert Liston, but I had only time then to give my first impressions concerning this eminent man. In returning to him and dwelling more minutely on his character and history, I hope you will not consider that I am spending too much time upon one individual. If you could see the honor and respect with which Mr. Liston is treated by his colleagues, pupils, and the medical profession at large, and then see him among his patients and at the operating table, and more than all, witness his kindness to our young countrymen, you would not believe that I could easily say too much about him. Professor Gibson gives a characteristic description of Liston in "his Rambles in Europe"—of his passion for rowing, and for domestic animals, particularly "his enormous black cat *Tom*, who was not unfrequently mounted alongside his master in the splendid chariot, and a constant guest at his hospitable board"—of his tall, robust, and elegantly formed person; his handsome features and penetrating eye; his modesty, playfulness, and benevolence. Dr. G. had been told that he was rough and uncouth in his manners, "a perfect *ursa major*"—"a mere operator or carver without judgment or discretion;" but his quick eye soon saw in him a surgeon who, "ere long, would rise to the top of the profession" in the first city in the world. Mr. Liston is certainly eccentric; but the prejudices which were excited by his eccentricites have yielded to the sterling qualities which shine in him as a surgeon and a gentleman. He retains his fondness for rowing, which in his youth was so great that his father put him to the study of anatomy in order that he might be fitted for a nautical life, if his passion for the sea should continue after he had completed his professional studies. He did not go to sea, however, and his time is now so entirely employ-

ed by professional duties, that little leisure is left him for indulging in his favorite recreation.

Robert Liston was born at Linlithgowshire, in Scotland, in 1795, and consequently is now in the fifty-second year of his age. He commenced his studies preparatory to the life which he proposed following with Mr. Barclay, at that time professor of anatomy in the University of Edinburgh. His progress in anatomy was so rapid that he was soon appointed demonstrator for the pupils of Barclay, and in this capacity he continued to labor for six years, during the latter two of which he was house surgeon to the Edinburgh Hospital. After this he visited London, and under the direction of Mr. T. Blizzard entered the London hospital. In 1816, being just twenty-one years of age, he took his degree in the College of Surgeons. The year following he returned to Edinburgh, where he taught anatomy and, for several years, surgery to a private class of more than a hundred and fifty students. He also received the appointment of assistant surgeon to the Edinburgh College, and after discharging the duties pertaining to that office with striking ability for nine months he was made chief surgeon, in which capacity he remained during his residence in Edinburgh. In 1834 he came to London where he has resided, engaged in a growing business, ever since. In 1835 he was elected surgeon to the University College Hospital, and made professor of Clinical Surgery in the University. Besides various papers in medical journals, and a Memoir on Hernia, he has written two works on Surgery which are well known in our country, one of them having gone through several editions, with valuable notes by your distinguished colleague, Professor Gross, and the other having been issued under the supervision of Professor Mütter, who has also made valuable additions to the original. They stand in no need of any praise which I could bestow upon them, having found their way into the libraries of all who take an interest in the practice or progress of surgery. Mr. Liston is still sound and vigorous in

mind and body, with the promise of many years before him—with even a youthful ardor in the accumulation of knowledge, we may yet expect to see many valuable contributions from his pen to our stock of surgical literature. At this season of the year he is not engaged in lecturing, so that I have not had many opportunities of forming an opinion of his powers in that way, but judging from the remarks I have a few times heard him make after his operations, I should say that he is not a fluent speaker, and that his aim is rather to give a clear statement of facts bearing upon his subject, than to appear graceful or eloquent. I have seen him execute several operations, the most important of which was amputation of the thigh by the circular method—a mode quite unusual with him, his uniform practice having been to perform the flap operation. It was one of those cases in which no display of peculiar skill could be made, but even in this Mr. Liston showed his greatness; and he did so not so much by the use of his knife, as by the general order and plan of the whole procedure. There was no noise, no bustle; every one, surgeons and assistants, had been taught his duties and his place. While the patient was being placed on the table for the operation, Liston was in another room changing his coat for an old one, which is his custom instead of putting on an apron. Presently he made his appearance, glanced at the bandages and the position of the patient, adjusted the tournequet, and then took up the knife and began the operation in the quietest manner imaginable. After he had finished the amputation he applied most of the ligatures himself, adjusted the edges of the wound, gave a few directions about the treatment, made some remarks concerning the cause and nature of the operation, and, with a simple nod of the head, walked out of the room.

I am in London at the worst season of the year for the prosecution of my studies by means of lectures. The winter term is over, and the great men, with a few exceptions, have withdrawn from their chairs until October, when their

labors begin again, to terminate in April. Graham, Quain, Sharpey, Taylor, and Williams, esteemed among the most able teachers in London, are not now lecturing. A teacher with whom I am very much pleased is Mr. Murphy, author of a work on Parturition of great merit, which I hope will soon be republished in America. He is a plain, unassuming man, about forty-five years of age, of quiet manners and appearance. As a lecturer he would not strike you. His voice is feeble, his speech slow and indistinct, and his manner embarrassed and uninteresting; but his language is correct and scholarlike, simple and concise, and his matter excellent. As a man you are obliged to like to him; his face is expressive of great amiability and kindness, and is a true index to his character. I breakfasted with him, and found him pleasant in conversation, and exceedingly obliging. He is regarded as one of the first accoucheurs in Great Britain.

Professor Grant, one of the most distinguished of the scientific men of England, is delivering a course of lectures on zoology. He is fifty or fifty-five years old, about five feet ten inches high; his head is large and well formed; his eyes are blue, more nearly grey; his nose is sharp, small, and well turned; his mouth is that of a speaker, large and wide; his manner of lecturing, though somewhat diffuse, is very good, being graceful and agreeable. He warms up as he gets into his subject, and, in a lecture I heard him deliver, spoke with as much fire about the habits of the oyster, and the circulation of a lobster, as our eminent friend, Prof. D., would do before the "Physiological Temperance Society."

The students attending the hospitals and lectures in London have none of the affability so characteristic of young men in our country; neither are they so fine in appearance as those you are accustomed to see. They are earnest, assiduous students, but distant and indifferent; crowding around their teachers, eager to hear, careless whether standing in your way or not, and looking all the time most ludicrously frigid. Students of the same small class will often be found wholly unknown to each other. There are those I have

seen who have followed Mr. Liston and other teachers through the hospitals for three or four years, and expect to take their degrees soon, without ever having exchanged salutations with them. I know a class consisting of five students dissecting for Mr. Liston, who meet every morning, and have dined together, on an average, twice a week for two months, who, nevertheless, profess no acquaintance. I inquired of one of them, a day or two ago, the name of a gentleman, pointing to one of his class-mates. "Well, I declare I don't know," was his reply. But they are students, in truth. You may walk into the library room of the University College and find twenty or thirty young men poring over their books, from which they are taking notes, not one of whom will raise his head to see who you are. You ask the librarian for the book you wish to consult; it is handed to you immediately, and you take your seat at one of the tables without your next neighbor's turning his eyes to see whether you are an acquaintance or a stranger. There you may occupy yourself all the morning, and never hear a word spoken above a whisper. Every student attending the University College takes copious notes. The lecture rooms are well adapted to this purpose, each seat having on its back a plank of suitable width and height to form a desk for writing. The note-books generally used are well bound, of convenient size to be carried in the pocket, and look as if they were intended for preservation and future reference. When the hospitals are visited by the attending physician or surgeon, you see the best students with their note-books in their hands ready to write down whatever may be said respecting the cases, and copy out the prescriptions which are placed upon a board at the head of each bed.

The relations between teacher and pupil here are by no means such as exist in the United States. The surgeons talk to their dressers in the hospitals in a way that not many of our students could bear—bear, I mean, without injured feelings. They treat their pupils as boys of ten and fifteen years are treated with us by the roughest pedagogues. There

is no social intercourse—no conversation in the door-way and on the steps of the College—no walking into the room of a professor to while away the hour occupied by one of his dull colleagues in turning over his books and preparations, or "probing" him about your chances for a diploma. No; there is nothing of all this between the English medical student and his teacher. A simple elevation of the hat on the part of the pupil, and an ambiguous touch of the beaver by the professor, makes the sum of their social intercourse, unless indeed the student chances to be a "dresser" in a hospital. In that case, if a bandage should be awkwardly applied, or an ulcer found in a filthy condition, or there be a patient in a bed of whose case the dresser happens to know nothing, ten to one, "stupidity;" "carelessness;" "without excuse;" "any one should have known better;" "who ever heard of such a thing!" "what were you doing all day, that you could not attend to this?" will greet his ears in much less time than it has taken me to write down the brief, emphatic sentences, which sound strangely enough to one unused to this style of address.

I send you two cases which I met with in a late number of the Dublin Quarterly Journal, (see page 153) in the first of which I feel more than ordinary interest because there is at this time in the University College Hospital a case analogous to it—aneurism of the radial artery, caused by a gun-shot wound of the hand, which Mr. Liston commenced treating, by pressure, a short time before my arrival, of which I will make a report when the patient is discharged. The following are the particulars of a case of *femoral hernia* which I saw treated in the same hospital.

M. W., a washerwoman, æt. 43 years, was admitted into the hospital on the morning of the 18th of May, with femoral hernia of the right side. Six years before she had been operated upon by Mr. Liston for hernia occurring in the same spot; from that time she had constantly worn a truss which, although it occasionally allowed a portion of the bowel to protrude, prevented its coming down to a danger-

ous extent. Two days previously to her admission, while lifting some heavy weight, she felt the bowel pass down in larger bulk than usual, and was not able as on other occasions of the kind to return it. When I first saw her, the tumor occupied nearly the whole of the inner surface of the the thigh, and was as large as a fœtal head; it was slightly painful and tender to the touch, and had produced some constitutional disturbance.

The patient was placed in a warm bath with a view to relaxing the muscular system; while she was in the bath attempts were made at reduction by the taxis; but these failed until the patient by her own efforts returned the bowel, which ascended with a gurgling noise. The finger could be passed up through the crural rings; no stricture of the bowel could be detected, showing that the reduction had been complete. An anodyne and a cathartic enema were ordered.

19th. The patient passed a restless night; countenance anxious; tongue coated; pulse quick and feeble; breathing hurried and performed entirely by the muscles of the chest; pain and tenderness upon pressure in the lower part of the abdomen and along the whole course of Poupart's ligament. She was ordered xv leeches to the abdomen; pills of calomel grs. ij, pulv. opii gr.ss, every four hours; cathartic enema.

20th. Patient slept none; pulse 120, and feeble; tongue coated in the middle and red at the tip and edges; thirst excessive; pain and exquisite tenderness over the abdomen; countenance extremely anxious. Repeat the pills every two hours; ten leeches, afterwards a linseed meal poultice to the abdomen; cathartic enema.

21st. The patient is evidently sinking; pulse weak, and 140; the same group of symptoms but greatly exaggerated; during the night patient vomited a dark colored matter, and had several bloody stools. Ordered blister to the abdomen; wine, and pills of calomel grs.iv and opium gr.ss every hour; mercurial ointment and olive oil ää ʒij; of this ʒij to be rub-

bed into the abdomen every alternate hour. The tumor has returned several times but was easily reduced, with the same gurgling noise; the finger could be readily passed into the abdomen through the enlarged rings, and at no time could any strictured portion of the bowel be detected. At 6 P.M. the patient died, vomiting a matter of the color and appearance of coffee grounds.

Post-mortem.—This revealed nothing save the evidence of peritonitis and enteritis throughout almost the whole of the abdomen, and the congested condition of the bowel which had been protruded. There was no appearance of stricture in any part of the intestines. The greater part of the small intestine presented, here and there, patches of lymph, and in all parts an amount of congestion which as effectually blocked up the alimentary canal as a stricture could have done. I watched the progress of this case, saw it treated by Dr. Quain, and witnessed the post-mortem examination with great interest. The propriety of an operation in order to determine whether or not there was stricture, I heard suggested. The inflammation which led to the fatal result was doubtless produced by the too powerful efforts, made by the patient herself, to reduce the hernia previous to her admission into the hospital.

London, May 25th, 1846.

REVIEWS.

ART. V.—*Fevers: their Diagnosis, Pathology, and Treatment. Prepared and edited, with large additions, from the Essays on Fever in Tweedie's Library of Practical Medicine.* By MEREDITH CLYMER, M.D., Professor of the Principles and Practice of Medicine in Franklin Medical College of Philadelphia; Consulting Physician to the Philadelphia Hospital; Fellow of the College of Physicians, etc., etc. Philadelphia: Lea & Blanchard. 8vo. pp. 604. 1846.

Many have been the dissertations on Fever; long and painfully has the subject engaged the attention of men; and yet it is not exhausted. Fresh investigations are made every year, and new papers and new books, if not new opinions and a new practice, given to the world every season. The journals of this country abound in essays on fever, and histories of epidemic fevers; old works on fever are republished; prizes are offered for the best treatises on this wide wasting disease—all of which illustrates forcibly not only the deep and abiding interest of the subject, but the imperfection of our knowledge in relation to it. Undeniably, the whole grave matter rests still under deep obscurity, after all the labor that has been bestowed upon it. We are not yet agreed concerning the febrile poison, much less respecting the mode by which fever is most safely and successfully treated. The highest authorities are still disputing whether the cause of it be a specific miasm, or mere aerial changes, and the common influences of fatigue, hunger, and exhaustion. The

views concerning its cure are not more accordant. Every variety of treatment has its advocates.

The work before us will not settle any of the great questions in dispute, but it is nevertheless an opportune contribution to our accessible literature on the subject. Tweedie's Library is known, and is in the hands of many of our physicians, but Dr. Clymer by revising the articles on fever, and adding the results of his own observation and experience has adapted them more perfectly to the wants of the American profession. In so far as he has engrafted American experience upon the original essays, he has performed a valuable and an acceptable office; but in this particular he has not done as much as might have been expected—certainly not as much as could have been desired. *He* has not exhausted the subject. Still there is wanting a fuller, more elaborate treatise on fevers as they prevail in the United States. What we need is a work descriptive of the peculiar features of our febrile complaints, as seen both in the symptoms and the post-mortem dissections, and of the remedies applicable to the peculiarities impressed upon them by climate and place. But the materials for such a work are hardly yet collected. Countless as have been our histories of particular fevers, very few facts have been published bearing upon their pathology. In other words, we have, up to this time, very few dissections recorded. The histories, moreover, are wanting in minuteness; they deal too much in general description, and give too few details. We have disquisitions in abundance on the "cause of fever," but not many cases accurately described from their origin to their close, with the symptoms each day, the treatment, and the appearances revealed by the examination of the body after death. The execution of such a work, therefore, requires time, but the materials for it are accumulating from year to year, and its appearance may be looked for at no distant day.

The topics embraced in the volume under consideration are the following. General doctrines of fever; Continued fever; Typhoid fever; Plague; Yellow fever; Intermittent

fever; Remittent fever; Infantile gastric remittent fever; Hectic fever; Small-pox; Measles; Scarlet fever; Puerperal fevers. We shall confine our examination to a few of these topics, and shall restrict our notice particularly to the contributions of the American editor.

Intermittent fever occupies much space in the volume, and is presented under all its varying aspects. The circumstance which imparts to intermittent fever its highest interest is this protean character—its assuming, now and then, a form of the most extreme malignity, while its usual type is so mild that thousands, in this country, annually suffer it to run on for months, without taking any special pains to check its course. Congestive fever is now well understood to be, generally, a pernicious intermittent. We believe the profession in the United States is indebted to Dr. Bell for, if not the first recognition of this important truth, at least its exhibition in a more striking and convincing light. Since the appearance of his Lectures in 1840 we venture to affirm, the subject of congestive fever has been better understood in the region of the United States where it is endemic, and its treatment, therefore, conducted upon more rational principles. Dr. Clymer has added some important quotations on the subject of these fevers. The following picture will be recognised by many of our readers as a faithful description of a disease with which they are familiar.

"The algid form (with prolonged and icy coldness), of pernicious intermittents is very peculiar. Dr. Maillot contends that it is not an indefinite prolongation of the cold stage. He says in the first stage of an intermittent, the sense of cold experienced by the patient is out of all proportion to the actual reduction of temperature; whereas, in the algid fever, although the skin is icy-cold, the patient does not complain of coldness. And this cold state supervenes after reaction has commenced, and often suddenly. The circulation becomes disturbed, lowered, and the pulse can scarcely be felt, the temperature of the body at the same time rapidly decreasing. The extremities, the face, the trunk become cold in succession, the abdomen remaining longer warm. The skin has

the coldness of marble. The tongue becomes pale, moist, and cold; the lips are without color, and the breath is cold. There is no thirst, and attempts to drink often excite vomiting. The actions of the heart become feeble, and only appreciable by auscultation. The intellectual faculties are undisturbed, and there is a sense of repose which is agreeable to the patient. All facial expression is lost. With this state, cholera may become conjoined, and the eyes then become hollow, glassy, and surrounded by a bluish circle. The approach of the algid form is so insidious as often to be mistaken for a remission produced by bloodletting, and the practitioner is only undeceived by the suddenness of the death of the patient. This deceitful calm is very strongly pointed out by M. Bailly, in his chapter on Diagnosis: he says that the patient may be walking about a few instants before the last attack: the accession is sudden; he lies down and dies in a few hours. Even when the pain (of the abdomen) and the danger are both considerable, the face has the appearance of calmness, as if its expression was no longer associated with the sufferings of other parts. Whenever says Dr. Maillot, a sudden retardation of the pulse succeeds to reaction, and there is paleness of the tongue and discoloration of the lips, we should not hesitate to pronounce the case algid. Temporising measures will be followed by death in a few hours. The patient dies as by an arrest of the innervation. If death does not take place, the pulse rises, the skin reacquires its natural warmth, and sometimes yields to remedial measures. The resemblance between this condition and cholera is commented upon by Dr. Maillot."

We quote also what he says respecting the treatment of this form of fever.

"In the congestive form vigorous practice is urgent. Maillot gives an example in which 40 grains of the sulphate of quinine and 2 drachms of ether were given in 4 ounces of water at two doses, in the course of an hour; a starch opiate injection, with 60 grains of the sulphate of quinine and 2 drachms of ether, was ordered at the same time, with sinapisms to the legs and blisters to each thigh. Under this treatment the patient began to recover warmth in a few hours, and the heart to act more forcibly; but the next morning the amendment was so slight, that a sinapism was ap-

plied to the whole length of the spinal column, and a clyster with one drachm of sulphate of quinine, and three drachms of ether administered; reaction followed with recovery.—Every effort must be made to produce speedy reaction. Stimulants should be freely given—brandy, ammonia, and particularly capsicum—both by the mouth and rectum; bottles of hot water, and hot bricks are to be applied to the extremities; sinapisms to the trunk and extremities, with turpentine fomentations to the chest and abdomen. As the pulse becomes developed, this active and violent treatment must yield to milder stimulants and diaphoretics. Quinine should be administered freely in large doses, by the stomach and in enemata, and it may also be rapidly introduced into the system through blistered surfaces, produced by the application of ammonia, and by inunction."

The remarks of Maillot will be read with more interest when it is known that, as physician in the French army, in Algeria, his opportunities for observation were most favorable, and that the climate in which he acquired his experience is not unlike that in which our worst cases of congestive fever occur. The reader cannot fail to be struck with the similarity of his practice to that which is now generally pursued by our southern brethren in this form of fever. This coincidence in the type and treatment of a disease prevailing on distant continents but in nearly the same latitude, is striking, while it is what should be expected. The geologist finds the same fossils among the silurian and devonian rocks of Germany and Russia, that we collect on the falls of the Ohio in the same formations. Similarity of geological structure is attended by similarity of animal form and organization. The shells and corals which are found dispersed through the limestone beds of Europe are recognized, even as to the species, in the same deposits in America. So it is concerning disease. The complaints that infest southern Europe bear a strong resemblance to those which prevail on the lower Mississippi; and the fevers of Africa are the congestive fevers of our southern States. Identity of climate

and other physical circumstances is accompanied by identity of disease. This part of the treatise under review might have been advantageously extended, and we are somewhat disappointed that, considering the great interest felt in congestive fever, Dr. Clymer did not make larger additions to Dr. Shapter's otherwise very full and complete chapter on intermittent fever. His additions are excellent, so far as they go, but the reader of a work on fever will expect to find more than this contains on one of the most dreaded of all the forms of that disease. This omission evidently does not result from any indisposition on the part of the editor to labor, or from any want of information on the subject. On the contrary his notes evince uncommon industry and extensive research. In subsequent editions the deficiencies of the volume on this head, no doubt, will be supplied.

The disposition shown by ague to return after it has been checked, and assume an obstinate chronic form is the most serious feature in the disease. This tendency, it is conceived, is greater now that quinine is in such universal use than it was formerly when the bark was employed. However this may be, it is well known that although chills are easily arrested by this admirable extract of the bark, they are exceedingly prone to recur, and by persisting for a long time introduce other maladies more formidable than the original disease. In such cases it is believed by many practitioners bark is the most certain remedy; but in our experience nothing has succeeded so well in effecting a radical cure as the preparations of *iron.* These are combined advantageously with some of the bitter tonics, as an infusion of the bark of the wild cherry, or of camomile flowers, or gentian, and by a persevering use of these articles we have rarely failed to see the ague perfectly subdued. The form of iron we generally prescribe is the *precipitated carbonate*, but we are not aware that it possesses advantages over many other preparations. The prussiate we have often given and either of these salts may be administered in the form of pills, of five

grains, three times daily. In cases where the spleen has become enlarged, we direct the *iodide* of iron, in pills prepared according the following formula.

"Take of iodide of 127 grains, iron wire about the thickness of a thin quill, half an ounce, distilled water 75 minims. Agitate them briskly together in a strong ounce phial, provided with a well-fitted glass stopper, until the froth which forms becomes white, which will happen in less than ten minutes. Pour the liquid upon two drachms of finely-powdered loaf-sugar in a little mortar, and triturate immediately and briskly for a few minutes; add gradually a mixture of the following powders, viz: liquorice powder half an ounce, powder of gum arabic a drachm and a half, and flour one drachm. Divide the mass into 144 pills."

One of these to be taken before each meal. Purgatives are necessary in conjunction with the alterative tonic. This condition of the spleen, if not obviated, is pretty certain to give rise to dropsy or other grave disorders.

Dr. Clymer has incorporated with the chapter on Remittent Fever the observations of a number of American physicians, which add essentially to its interest. This fever, as it is the most prevalent amongst us, after the intermittent form, and the most fatal, has long attracted a larger share of the attention of southern physicians than any other disease. Like intermittent fever, it often puts on the congestive type, and is then one of the most fearful of diseases. We have observed that men between the ages of fifty and sixty are particularly liable to attacks of this fever, and that in such cases it is particularly fatal. The disease in them is decidedly remittent, and almost intermittent, for several days, when, after a chill, symptoms of fatal congestion ensue, and the case becomes hopeless. We give entire what Dr. Clymer adds on the treatment of this fever:

"In the treatment of remittent fever in this country, the simple expectant plan is the one which has been generally of late recommended by those who have had much experience

in the disorder. General blood-letting is in most cases not required, particularly in our southern latitudes, where great caution is required in its use; it is, however, said to be better borne by northerners in such cases, than by the native inhabitants. When decided indications exist for the use of the lancet,—general arterial excitement, as shown in the wild bright eye, intense cephalalgia, hard, full pulse, hot surface, and injected face—it should promptly be resorted to, and great relief will frequently follow; but it will rarely be found necessary to repeat it. Local bleeding, on the contrary, is most generally of great utillity, in relieving many of the prominent symptoms,—as the gastric irritability, tenderness or pain of the epigastric and hypochondriac regions, and the pains in the back. Emetics are now generally abandoned in this form of fever, it being found that they aggravate the gastric distress, which is usually so annoying. If, however, it is found necessary to empty the stomach at the commencement of an attack, the mildest means that will effect the object, should be resorted to. A full dose of calomel (grs. x.) may be given in the first paroxysm, followed by castor oil, or a saline cathartic. No benefit can be derived from a course of systematic purging afterwards, and much harm may result. It is important, however, to keep the bowels open with mild laxatives, care being taken to select those which may not offend the stomach, and by enemata. As to the specific influence in this disease of mercury, no satisfactory evidence has, in the opinion of the writer, been adduced of its utility. Small doses of calomel, blue pill, or hydrargyrum cum creta, combined or alone, may be highly useful as adjuvants in the general plan of treatment, as in that of other diseases. The apartment of the patient should be kept cool, and he should not be oppressed by too much covering to his bed. Cold sponging, with water, or vinegar and water, is generally excessively grateful, when the skin is hot and dry. Dr. Dickson speaks highly of the effects of cold water, and particularly of the cold affusion, which he is disposed to regard as among the most efficient of our febrifuge remedies. 'All that we can hope or anticipate from blood-letting,' says he, 'may be obtained in a majority of cases by the use of the bath, while the latter possesses this striking and obvious advantage, that we can repeat it as often as the symptoms are renewed that require it. Nor can I help expressing my surprise at the very limited resort of my professional brethren to it, when I consider how instinctively we desire it as a relief from the burning heat that oppresses us, and how certain and immediate a means it is of affording this

relief. Of the three modes of employing it, namely affusion, immersion and ablution, the first is the most impressive and efficacious, the last the least liable to objection or risk in doubtful cases. The particular indications which demand the resort to it, unhesitatingly, are found in the youth and general vigor of the patient, and the heat and dryness of the surface. The local determination which it controls most promptly is that to the brain, shown by headache, flushed face, red eyes, delirium, etc., with a full, hard, bounding pulse. Seat your patient in a convenient receptacle, and pour over his head and naked body from some elevation, a large stream of cold water; continue this until he is pale, or his pulse loses its fullness, or his skin becomes corrugated, and he shivers. On being dried and replaced in bed, a genial sense of comfort and refreshment will attest the benefits derived from the process, which, as I said above, may be repeated whenever the symptoms are renewed, which it is so well adapted to remove. If the shock of this shower bath or cataract be too great, immersion, which many prefer, may be substituted. Few shrink from this, and almost every one will evince the high gratification and enjoyment derived from it. One of the pleasantest effects following the bath, is the complete relaxation of the surface which it so often brings on, attended with a copious and salutary sweat. I need not warn you against the nearly obsolete practice of endeavoring to accelerate or increase this by wrapping in blankets, or shutting up the apartment, or warming it artificially. The patient is to be covered agreeably to his sense of comfort; and though I would not place him in a current or draught of air, I would have his chamber fully and freely ventilated, Some have strangely enough imagined it to be necessary that evacuations of some kind should be premised to the application of the cold bath, but this is a worse than superfluous caution. It does positively harm by postponing the remedy until the time of its most special adaptation and great utility is past—the earliest and forming stage of the febrile attack. It is here, I repeat, that you will find it most admirably beneficial. Yet you will meet with frequent occasion to advise its repetition at intervals, throughout the whole progress of the disease; and even when the patient can no longer bear either affusion or immersion, he will often be relieved and gratified, by washing and sponging him, especially over the hands, arms, breast, feet, and legs. In the very latest stages of our worst fevers, ablution in this way with ardent spirits, is found singularly refreshing. The affusion of cold water locally upon the head in a stream of some height

by the spout bath, is of inestimable advantage in cases where the cerebral determination is inordinately violent, dangerous or tenacious; and will bear to be repeated far oftener than it would be proper to take the patient out of bed for the administration of the general bath. Support him in a leaning posture over the bedside and dash the current from a pitcher over the vertex for some minutes and from some elevation above him. Many who dislike all the other modes of using cold water, entreat for this operation as the most soothing of possible indulgences; nor have I yet met with any ill consequences from allowing its most unlimited frequency of repetition. The cold bath in its several modes of general application is prohibited, let me remind you, when the patient is of feeble habit of body; much advanced in age; much exhausted or enfeebled at the time; when the pulse is weak or the skin cool, or covered with moisture; when the lungs are oppressed or inflamed; and when diarrhœa is present. Its repetition is forbidden when it has occasioned a protracted chill or rigor, or the patient has continued to feel cold or uncomfortable from it.' Excessive irritability of stomach is a frequent and very troublesome symptom. Ice in small pieces, the effervescing mixture, and other remedies of this kind may be administered for its relief. To moderate the excessive thirst, ice, iced water, and acidulated drinks may be allowed. Lemonade, tamarind water, and a weak solution of cream of tartar, are, in general, very grateful. With regard to the administration of quinine some difference of opinion prevails. As a general rule, the more decided the remission, the greater its utility; in the inflammatory form, it is generally of little advantage. Where the remissions are well marked, or where there is a tendenccy to prostration, it is, on the contrary, of the highest value, and should be administered in doses of from five to ten grains, frequently repeated before the anticipated exacerbation. Stimulants sometimes are necessary towards the termination of the disease. Of these, capsicum, wine, brandy, and ammonia, with infusion of serpentaria or valerian, and nourishing food, are very beneficial. Convalescence should be carefully watched, as relapses are easily induced by imprudence. The diet should be digestible and nutritive, and the body should be well guarded against any vicissitudes of climate. The secretions generally should be attended to, and moderate exercise prescribed with the returning strength. The mild bitters will often materially assist us in restoring the powers of the stomach.

"The congestive form of remittent fever requires prompt

and vigorous treatment. The chief indications are to procure reaction, and to prevent a recurrence of the paroxysm. To effect the first, sinapisms should be applied over the stomach, chest, between the shoulders, and on the extremities. Blisters are recommended by some practitioners as preferable, whilst others advise that they should replace the sinapisms, when these have commenced to excite irritation of the surface. Stimulants must be freely given internally, quinine, camphor, capsicum, &c. The quinine must be given in large doses, (grs. v. to x.,) at short intervals; it should be combined with capsicum or camphor, or if there is severe vomiting, the oil of turpentine may be substituted for the camphor. The evidence in favor of large doses of quinine repeatedly given in congestive fever, is ample and convincing. Calomel is generally combined with the above remedies, and is administered during the paroxysm, to the amount of fifteen or twenty grains."

This is an admirable summary of American practice in bilious remittent fever, and we commend it to all who have not yet adopted a system satisfactory to them. Much stress is laid upon the use of cold water, but not too much; it would be difficult to exaggerate the virtues of cold water as a febrifuge. Nor is ice, as a remedy in cases of gastric irritability, too highly extolled. We have heard much of medicines "acting like a charm," but if ever we saw a magical effect from any remedy, it has been from ice in fevers, among children and adults, attended by obstinate vomiting. We attach great importance to quinine in remittent fever tending to an intermittent type. If there be a distinct cold stage this medicine will generally be found admissible, and its efficacy is hardly less paramount then than it is in intermittent fever. Every case of remittent fever ought to be narrowly watched, and if it be discovered that at a particular period in the day the patient's extremities grow cold, and other indications of a chill appear, quinine should administered at hours and in doses to anticipate the next paroxysm. We have a painful conviction that we have seen valuable lives lost under a different practice, which might have been saved

by such a procedure as this. Their fevers have gone on under the purgative and emetic treatment for nearly a week, exhibiting distinct remissions daily, or every other day, until the true congestive character has been assumed, and all means become unavailing. What might not quinine have effected under such circumstances? Quinine, no doubt, has aggravated the symptoms in many cases, for it is not a medicine that can be used without discrimination; but whenever, and as soon as it can be given without adding to the febrile excitement, it is a remedy more efficacious than all others in fevers. It is a true *febrifuge*, and the true practice is to administer it the first hour that it is admissible.

We shall not attempt to give any farther account of this volume. These points we have noticed in advance of its circulation, as they are matters of special interest to the readers of our Journal at this season. The work will have, as it deserves, a wide circulation, and no one who becomes its possessor will regret the time and money that he may expend upon it. Some of the best minds in the profession have been engaged in its preparation. Christison, Shapter, Burrows, Gregory, Locock, are names familiar to all the readers of modern medicine. To their essays, all the more finished and spirited because the authors had choice of their subjects, the American editor has added a chapter on typhoid fever, besides appending valuable remarks to all the subjects on which the labors of his countrymen have reflected any light.

ART. VI—*Proceedings of the Ohio Medical Convention held at Columbus, May* 12, 1846. Dayton: R. N. & W. F. Comly. 1846.

We have received a copy of the Proceedings of the Medical Convention of Ohio, in which we find a good share of solid medical matter. The Convention is well sustained,

having the countenance and support of the best medical talent in the State, and is very manifestly exerting a happy influence upon the profession in that quarter. Among the doings of the Convention, we perceive that it has appointed delegates to the National Medical Convention to be held at Philadelphia next spring. An excellent code of *medical ethics* is printed in connexion with the medical reports in this pamphlet, and as it has a prominent place among the proceedings of the Convention, it is to be hoped it will be diligently pondered and faithfully observed by its members.

The first medical report is in relation to Typhoid fever, of which the committee appointed to investigate the subject find it difficult to give a satisfactory account, for the reason that they have not been able to collect any facts respecting the post-mortem appearances exhibited by the disease in Ohio. The report says:

"It cannot be doubted, that the character of the fevers of the West is gradually undergoing a change. The intermittent and remittent forms of disease, are gradually being replaced by those more continued. This change is more observable and marked in some localities than others, and probably depends in a great degree, if not entirely, upon the clearing, draining, and cultivation of the soil. In numerous places known to us, where the malarious diseases were formerly very prevalent, they are now scarcely known; and in a number of instances quite extensive epidemics have prevailed, agreeing in their main symptoms with what is described as typhoid fever."

The next report is of a case of deformity resulting from a burn, in which an operation was successfully performed by Dr. Thompson, Surgeon General of Ohio:

"This case was presented to the Convention by drawings, representing a young lady 20 years old, very much deformed by a burn which occurred when she was a child of 4 years, and the relief afforded by an operation.

"The burn occurred on the breast, neck, and chin. The

chin was drawn down to the sternum, the mouth open, and the head permanently bent forward.

"An incision was made into the modulated tissue, about midway of the sternum; the integuments dissected up to the lower maxillary bone; the underlying cellulo-fibrous tissue of this point divided, to admit a proper elevation of the head, and fashion a chin. The next step in the operation was to adujust the integuments to the parts thus prepared, and secure them by appropriate bandages.

"First dressing, patent lint—subsequent, various. Elastic retaining bandages were used during the entire healing process. The flap, in its main extent, united by the first intention.

"The operation was entirely successful—the chin and head resumed their natural position, and a fine, intelligent young lady, who had had an unsightly deformity for sixteen years, was made of a very respectable appearance. Her general health, too, which had become very poor before the operation, was completely restored."

This is followed by an essay on *obstetric auscultation*, by Professor Butterfield, of Willoughby Medical College. Notes of a paper on version of the uterus, and of one on animal magnetism are given, but the articles have not been published. A case of "*Spontaneous dry Gangrene*," attended with hydrophobic symptoms, is reported by Dr. R. Hills, at length. The subject was a lady 41 years of age, who had suffered from a severe attack of pneumonia, for which she was actively treated. After two or three relapses, in which the lancet was found necessary, and after exposure to a cold room in waiting upon a sick daughter, she was seized with a chill, which was followed by acute pain in one of her lower extremities. Dr. Hills found the limb pale, "of a cadaverous appearance below the knee, and somewhat shrunken in its volume." Five days afterwards signs of mortification appeared; the cuticle separated over the lower part of the leg and foot which had become slightly swollen.

"On April 4th, the toes and lower third of the foot assumed a *tawny hue*, or brown scorched color, and during the succeeding three or four days, this hue increased and the parts be-

came shrivelled, hard, horny, and semi-transparent. The same changes soon became apparent on the side of the leg spoken of as being white and corrugated. At the same time the remaining portion of the leg became more tumefied, of a greenish black color, and very fetid. In the mean time, we wrapt a blister entirely around the limb above the knee, applied the fermenting, charcoal and linseed poultices, &c., to the knee itself, and the upper part of the leg, and encased the lower portion in charcoal alone, for the purpose, simply, of removing the fetor. She gradually sank, however, until the 7th of April, when at noon her pulse was 150 and very feeble, and by evening it was so indistinct that it could not be counted. It remained so during the night and the whole of the 8th. Her respiration at the same time was irregular, deglutition difficult, and voice almost inarticulate. Quinine and brandy were freely administered while in this condition, and in the evening of the 8th she revived, and the pulse became distinct, and when first counted was 140. By the morning of the 9th, it was 120, and she had correspondingly improved in other respects. In this condition she remained until the 14th, six days, the sphacelation slowly proceeding up the limb, at the rate of three or four lines per day, preceded by a band of purple redness, with slight œdema."

In ten days from this time the sphacelation ceased to progress, "and a line of demarcation began to form below the knee, first indicated by the crimson band changing to a scarlet color." The patient had sunk so low that her physicians were deterred from amputation in the ordinary way, but a separation of the putrid limb was determined upon and was effected through the dead parts, the patient being unconscious of the operation until she heard the grating of the saw against the bone. Two days after this operation, the patient's condition appeared improved, and hopes of her recovery began to be entertained; but symptoms of hydrophobia came on five days subsequently, which terminated her sufferings on the fourth day after their occurrence, and forty-five days "from the first invasion of disease." These symptoms are thus described by Dr. Hills:

"When drink was brought to her, as she was about to take it, there was a general nervous disturbance, amounting to a

shudder, with twitchings of the muscles of the face, neck and arms, though she would succeed in taking her drink. These difficulties increased during the afternoon until 7 P. M., when I first became aware of it. The convulsive movement, or *strong, clonic spasms* of the muscles of the face, neck, arms, and chest, increased by attempts to drink, seemed now to arrive at their acme, and when I came into her presence, the eye-balls were thrown convulsively upwards, the eyes open and staring, the muscles of the face horribly distorted, respiration nearly suspended, having been, immediately preceding, that of a person walking into cold water. This condition lasted about half a minute. At intervals of from one to five or ten seconds, there were short, sharp and strong jerks of various muscles, principally confined to the upper portion of the body, still continuing. In ten or fifteen minutes, on attempting to give her an anti-spasmodic, she was thrown into the condition described as when I first saw her, which lasted about the same length of time, a half minute. These paroxysms, so to speak, of convulsions, during the next four hours, were as frequent as once in 20 or 30 minutes, the short, sharp jerks continuing in the intervals with greater or less frequency. The paroxysms were sometimes brought on by attempts to drink, by bodily exertions, and sometimes without an apparent immediate cause. From 8 to 10 o'clock she took no drink, all attempts being unsuccessful, though various means were tried. We could not even get ice into her mouth, though there was no *trismus*.

"She was frequently complaining of her inability to drink, as her thirst was great. At an early part of the evoning, a warm bath was suggested, with which suggestion she seemed pleased, but when it was ready for her use, the mere information that it was ready, produced such shuddering and convulsive movements, with dread and reluctance in her mind, that we were compelled to desist. Her head, upon the upper portion of it, was exceedingly hot, for which we kept ice constantly applied in a bladder. For the first few hours, the functions of the brain seemed unaffected, but then the mind became slightly wandering, confused for a few moments, then clear again; but upon the whole the confusion increasing. In the latter part of the night, there was an abatement of the troubles. She was still convulsed, but could drink with tolerable ease, though with agitation in the effort. Her pulse had during the night been small, irregular, and rapid, the extremities cool. In the morning of April 28th, some general reaction took place, or the pulse was fuller and the extremities

warmer. At 12, M., the convlsive actions again increased, and were frequent and severe until 3 or 4, P. M., when they again diminished, the powers of the system evidently giving way—the delirium having become constant, and the pulse very small and irregular, her muscular strength diminished, &c., and by midnight, deglutition was difficult, and her voice became inarticulate. There was constant watchfulness, with delirium, and after lingering until 9, P. M., of the 30th, death relieved her from her varied and greatly protracted suffering, 45 days from the first invasion of disease.

"Since her death, information was given by an aged and intimate female acquaintance of the family, that when Mrs. L. was from 14 to 16 years of age, from 25 to 27 years since, she was bitten by a favorite house dog of her own, while it was laboring under some species of fits, with which it died, or for which it was killed, she thinks the latter.

"Of these facts the immediate family have no recollection, except that they possessed such a dog.

"This case, it appears to me, calls up several questions of great interest, among which are the following:

"Was the gangrene *spontaneous*, or the sequela of the previous disease?

"Was the convulsive condition at the close, truly hydrophobia, or traumatic tetanus? If the former, it is remarkable as to the time that the virus remained inactive; if the latter, it is equally so as to its simulating hydrophobia."

We should not be disposed to attach much importance to the story of the "aged female," that the patient, when a girl, twenty-seven years before, "was bitten by a favorite house-dog of her own." The irritation of the sphacelated limb strikes us as a cause quite sufficient to have elicited all the symptoms in the case.

Reports of several surgical operations by Dr. Howard make up the remainder of this pamphlet. One of these, the removal of a large urinary calculus from a female, possesses a good deal of interest. By means of an instrument contrived by the operator, Dr. H. was able to dilate the urethra to such an extent, that but little cutting was necessary. Dilatation by sponge tents and bougies had been found im-

practicable on account of the irritability of the parts. The operation is thus described:

"The patient being placed as in the lateral operation for the male, without any difficulty, I introduced my dilator, and readily separated the arms of the instrument by means of the thumb-screw, so that in fifteen minutes I was enabled with very little pain to the patient, to place my finger upon the stone, while the instrument still remained in the urethra. As it was not safe to depend upon dilatation farther, I introduced the bistoury and divided the urethra upward and outward, after Liston's plan. This division increased the facility of dilatation to almost any extent. I could now feel the stone in every direction. I immediately introduced a medium sized forceps, but found the stone too large to escape with impunity to my patient. I again introduced the dilator, distended the parts, and then made another incision outward and upward on the opposite side. This enabled me to command the stone, and to remove it without much force."

In a week, the patient was able to retain her urine from two to four hours, and ultimately regained the power completely.

ART. VII.—*Dictionary of Practical Medicine, comprising General Pathology, the Nature and Treatment of Diseases, Morbid Structures, &c.* By JAMES COPLAND, M. D., F. R. S. Edited with additions. By CHARLES A. LEE, M.D.

Part XVI of this admirable Dictionary has been for several weeks on our table. We congratulate the profession that the work is going forward with so much regularity, and that there is a prospect of its completion at no remote time. When brought to a close it will constitute a sort of encyclopædia of practical medicine with which no practitioner will willingly dispense. What has already been issued of it makes 1056 pages, with double columns in fine print.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

On the Treatment of Aneurism by Compression. By Dr. Porter, Consulting Surgeon to the City of Dublin Hospital, &c. &c.—We do not, says he, extol the practice as being simple and safe, and free from pain, and exempt from trouble; we only compare it with another, and advocate it on the grounds of being more free from danger, more conservative of human life. True, the disease may occupy situations where this particular mode of treatment cannot be adopted, to which there may be no means of applying pressure, or where there may not be sufficient space for its adaptation, and, therefore, we cannot forego our operations on the carotid, the subclavian, and the iliac arteries; but for the other forms of aneurism, and especially that formidable one, the popliteal, still more formidable because of its extreme frequency and the fatality which attended its former treatment, we ought to consider ourselves happy in possessing a resource which promises to supersede the necessity of an operation altogether. I look forward with hope, and indeed with confidence, to the day when it shall cease to hold a place in operative surgery, when it shall have become (at least in Ireland) a matter of professional history—the practice of by-gone days—and when a surgeon shall undertake the management of a case of popliteal aneurism with as much calmness and reliance on the resources of his art, as he lately approached it with apprehension.

Wm. Devereux, a tailor, æt. 29, was admitted into the Meath Hospital, December 3d, 1844, when he stated that he had generally enjoyed excellent health, until about two months previous to his application for relief, when he observed an unusual pulsation or throbbing in the right ham, which, howev-

er, gave him no uneasiness, except that he imagined that limb to be occasionally stiff in walking. He thus continued for six weeks, at the end of which a tumor appeared on the spot where he first observed the throbbing, which gradually increased until it attained the size of a small orange, though still unattended with pain; but the size of the swelling, and the stiffness produced by it, interfering with the power of extending the limb, he applied sixteen leeches, which he imagined had some effect in reducing its dimensions. During the last two days it increased so rapidly as to create alarm, and induce him to apply for assistance.

On examination, a tumor was observed pulsating strongly on the right popliteal space, and occupying its entire extent; firm and incompressible externally, but softer internally, where pressure had the effect of diminishing its volume considerably. The expansion during its diastole was equally perceptible in every direction, and a low *bruit de soufflet* was heard over every part of it. Pressure on the artery at the groin reduced its size by nearly one-third. The man's general state of health appeared to be very good, and he made no complaint except of pain occasionally shooting down to the external ancle, particularly at night.

Dec. 6. At half past ten o'clock this morning I applied pressure on the trunk of the femeral artery by means of two clamps; one applied about two inches below Pouparts' ligament, the other at a spot nearly corresponding to the place where the vessel entered the tendon of the triceps muscle, with the intention that one might be screwed down when it became necessary that the other should be relaxed, and thus a constant and uninterrupted compression be maintained. The superior clamp was then screwed down until the impulse of the circulation was communicated to the instrument, which vibrated with each stroke of the vessel. Under this pressure the pulsation of the tumour was scarcely, if at all, diminished, and he bore it without apparent inconvenience for a quarter of an hour, when it was relaxed—the inferior clamp having been screwed so as to produce a corresponding effect: but it was found that he could not endure this latter either so well or for such a length of time as the former, the reason of which appeared to be that a comparatively much greater force was necessary to produce a given effect on the circulation when used where the vessel was deeply covered, and consequently the pressure on the soft parts there was stronger and less endurable. In the evening the limb was slightly swollen and discolored, and he complained of pain in the calf of the leg,

which latter symptom was relieved by wrapping the part in flannel.

Dec. 7. Passed a sleepless night; the limb more swollen but less painful.

Dec. 8. Had some sleep from the effects of an opiate. The pain was now trifling, but the tumefaction increased, and there was some œdema. On this day he was able to endure the pressure of the superior clamp for half an hour, and of the inferior twenty minutes; neither instrument was ever screwed so tightly as completely to obstruct the circulation, or stop the pulsation in the tumor.

Dec. 10. On this morning I found both clamps loose and unscrewed; this had been done by the patient himself, who was feverish, irritable, and discontented, complaining of headache, and having a hot skin and accelerated pulse. He was ordered some aperient medicine, which afforded great relief.

Dec. 12. I found it nearly impossible to affect the circulation of the limb by the inferior clamp: it could not be brought to bear directly on the vessel, and consequently the degree of pressure used was too forcible without being very effective. Mr. Millikin, the ingenious instrument maker, of Parliament street, contrived a clamp in which this objection was obviated; it answered the purpose admirably.

Dec. 13. The œdema of the limb had nearly disappeared, and there was no pain; the *bruit de soufflet* scarcely perceptible in the tumor, and the force of pulsation diminished.

Dec. 15. The case seemed to be progressing most favorably, when, unfortunately, the new instrument broke, and pressure of any kind was discontinued for several hours. The symptoms all returned as in the commencement.

Dec. 16. A new instrument having been constructed, the pressure was resumed, the symptoms being as strongly marked as at any previous period, but the general condition of the patient much more favorable; he could now endure the operation of the superior clamp uninterruptedly for an hour and a half, that of the inferior one for an hour, and neither occasioned œdema, discoloration, or pain.

Dec. 20. The *bruit de soufflet* was no longer audible, and the tumor seemed to be firmer and smaller. The patient appeared perfectly to understand the object of the treatment, which had been frequently explained to the pupils at his bed side, and managed the screw of the instrument himself with considerable judgment: the necessary attendance on him was, of course, diminished, and the case afterwards gave but little trouble.

Dec. 30. On the evening of this day he suddenly exclaimed that the pulsation in the ham had ceased, and that he was cured. On examination such was found to be the case.

Jan. 6. The tumor was hard, diminished in size, and totally devoid of pulsation. He was up on this day, weak and somewhat emaciated from confinement, but in other respects perfectly well. He has since been frequently seen by me and several of the pupils of the hospital; and up to the last day on which he came under observation (July 19, 1845) he remained without the slightest apparent tendency to a recurrence of the disease. The limb that has been engaged exhibited no difference from the other, except that, on minute examination, a small, firm, kernel-like tumor could be felt deep in the popliteal space.—*Dublin Quarterly Jour. of Med. Science.*

D. W. Y.

New Test for Prussic Acid.—The following new method of testing for hydrocyamic acid is proposed by Mr. Richard Austin, Jr., of this city. The precipitate of cyanide of silver, say half a grain, obtained in the usual manner, is mixed with a small quantity of oxide of iron and carbonate of potash, and the whole fused together in an iron or platinum capsule. The fused mass is then dissolved in half an ounce of distilled water, filtered, and rendered slightly acid by the addition of a few drops of hydrochloric acid. The liquid thus treated is next divided into two portions, to one of which a few drops of a solution of sulphate of copper is added, which immediately causes the evolution of the chocolate-brown color, so characteristic of the ferro-cyanide of copper; and to the other a few drops of the muriate tincture of iron, or any persalt of iron, when the solution becomes intensely blue by the formation of the ferro-cyanide of iron, the ordinary Prussian blue.

In Mr. Austin's opinion, "these two tests, with the well-known odor of prussic acid, are, *independently of all others*, sufficient to convince the medical jurist of the presence of free prussic acid." Mr. Austin adduces several arguments to shew the superiority of this test to those already known to chemists, both in accuracy and facility of application, by persons not skilled in chemical manipulation. The precipitates above mentioned are very distinctly obtained with half a grain of cyanide of silver.—*Ibid.*—*Abridged from the Dublin Hospital Gazette.*

D. W. Y.

On certain Pathological conditions of Milk as the cause of disease in Infants.—M. Albert Donné, in his *Cours de Microscopie*, (Paris, 1844, page 412,) observes: Our ignorance in the present day with regard to the characters of good and bad milk in nurses, and the mode of distinguishing that which possesses qualities requisite for the life and health of the child, from that which only affords to it an unwholesome kind of food, is so great that it is almost impossible to find a practitioner, nurse, or even chemist, capable of giving an opinion whether a given specimen of milk be of good or bad quality. The indifference with which this important question is regarded, is no doubt in great measure attributable to the difficulty of the subject, to the inefficiency of the results which chemical analyses have hitherto afforded, and to the want of a proper method in the examination of this substance. We cannot in reality attribute it to any lack of interest, or to the trifling importance of the question, for there is perhaps none which in a higher degree concerns the public health, the happiness and welfare of families, or which more frequently presents itself for solution; and I have no hesitation in stating, that all which has hitherto been said and written on the subject of milk, so far at least as regards its peculiar qualities in relation to the nourishment of infants, is absolutely valueless. No one, certainly, is likely to be deceived by the color, consistence, or even taste of milk; yet nothing can be more vague than are such characters; it is impossible to attach any real value to them; and since they are based on nothing positive, each person may interpret them as he pleases; consequently the attention of medical men is directed much rather to the general health of nurses than to the properties of their milk; and the examination of this secretion, if undertaken, is performed merely as a matter of form. Undoubtedly the general health is an indispensable condition, and one to which especial attention ought to be directed in the selection of a nurse; yet this condition is far from being the only one deserving of consideration, and it is well known that the best health is not always a guarantee for the good qualities of a nurse, or the nutritive properties of her milk; the lacteal secretion may be insufficient, or abnormal, in a woman otherwise perfectly healthy. Is it not a matter of daily observation, that one woman, although of a meagre sickly appearance, makes a better nurse than another woman of the healthiest aspect; and are we not frequently deceived as to the state of the constitution by external appearances? It is evident that the organs endowed with the function of secreting milk are, so to speak, placed too much without

the general economy, to allow of the qualities of this secretion being estimated by the integrity of other organs and the regularity of other functions. It is in the milk itself, therefore, that we must search for the characters of its good and bad qualities; and until we possess the means of observing its properties, and its good or bad nature in relation to the nourishment of infants, practice will be deprived of rule, the choice of nurses will be made in an empirical manner, and the determination of mothers who wish to suckle will more frequently be regulated by chance or caprice, than by reason, or with a due regard to the interest of their children. The subject has recently attracted the attention of M. Girard, who has furnished the following cases and observations. (*Archives Générales de Médicine*, June, 1845.)

Case I.—In September, 1840, a child, aged five months, was brought to me. I was informed that it was strong and vigorous when born, and that it was at once delivered to the charge of a nurse, who had been suckling for fourteen months. It shortly became uneasy, cried incessantly, and was only quiet when at the breast; it gradually grew thin, and diarrhœa was established, the stools being of a green color. When brought to me it presented the following condition: Its face was thin and pale, tongue red, with a few scattered aphthous points; belly tense; there was a bright erythematous redness over the thighs and nates; there was frequent diarrhœa, the stools green; vomiting of curdled milk several times a day; the child slept badly, frequently awaking. This was the third time the child had been attacked with an almost similar set of symptoms, except that the aphthous spots now appeared for the first time, and the attack generally was more severe than the former ones, which had disappeared under the use of baths, starch injections, and abstinence from food; the diarrhœa, however, had continued. Baths, injections, gargles were now in vain made use of; the diarrhœa obstinately remained, and the aphthous spots increased. The nurse's milk was very alkaline; it was not examined microscopically. Since the child did not mend, it was determined to change its milk, and a nurse was engaged who had only been suckling for three months. The beneficial effects of this change were very marked; in two days the diarrhœa had considerably abated, and after a week all the symptoms finally disappeared.

Case II.—Madame S., aged 25, was on the 14th of November, 1844, delivered of her first child, a male, strong and well formed; she suckled this child for ten days, at which time her breasts becoming enlarged and painful, a nurse was en-

gaged. This nurse was a middle-sized, dark-complexioned woman, about thirty years of age. She had no appearance of disease; her breasts were small; her milk was sweet, of good color, consistence, and quantity, and about three weeks old. The child when delivered to her charge was in good condition, and its evacuations were healthy; but in a few days its sleep became disturbed; it grew thin; its stools became liquid, and very frequent, sometimes green, at others black; it had nausea and vomiting; a bright redness extended over the thighs and nates, and the child became very restless. On the 3d of December it presented the following appearances: emaciation extreme; skin dry and rough; diarrhœa frequent; stools green; the belly tense and painful, extensive erythema over the surface of the body; some vesicles on the scrotum; constant vomiting after taking the least quantity of liquid or milk; tongue red, and as well as the mucous membrane lining the lips and cheeks, covered with numerous aphthous spots. I prescribed bran baths, water containing white of egg for drink, injections of linseed infusion with a drop of laudanum twice daily, and poultices to the abdomen. In spite of this treatment, however, the symptoms became more intense, the erythema extended, the aphthous spots became more confluent, ecthymatous pustules formed on the legs, the diarrhœa became more frequent, and the emaciation increased. This state of things continued until the 9th of December, when the nurse's milk was examined microscopically by M. Duforsè, and the following results obtained:—There was nothing peculiar in its color; its consistence was that of milk containing much cream; treated with ammonia it became slightly viscous; it was neither acid nor alkaline. When a drop of this milk was examined with a microscope magnifying 300 diameters, it was observed, 1st, that the milk globules were in great abundance, such as is found to be the case in very rich milk; they were generally of a considerable size, and the largest resembled small bladders half filled with liquid, and collapsed. Instead of having a pearl-like brilliancy, most of them, especially the large ones, were of a dull white color, somewhat resembling opal; some of them, aggregated together, formed small groups, which could be moved about in all directions, without a single globule being detached. When submitted to slight pressure, these several groups spread out so as to occupy a surface five or six times greater than they presented at first, and they assumed various forms. The smallest quantity of sulphuric ether introduced between the plate of glass dissolved a large quantity of them very rapidly. 2d. The field of the microscope

was beset with roundish granular particles, perfectly colorless, and presenting all the characters described by J. Henlè, Donnè, Mandl, Güterbrok, and other micrographers.

[To these particles Donné first applied the name of *corps granuleux*, and describes them as invariably existing in colostrum, but disappearing gradually as the milk becomes older; so that after about the twelfth day, and usually much sooner, not a trace of them is to be fouud. They differ from ordinary milk globules (with which they co-exist) in form, size, general aspect, and internal composition. They are not always globular, but present all possible varieties of form, and also of size, the smallest being about one-hundredth of a millimetre, the largest many times this size; they are slightly transparent, usually of a yellowish color, and of a granular aspect, appearing as if composed of a small number of granules aggregated together, or enclosed within a transparent envelope. Very often there exists in the centre or some other point of these little heaps a single globule, which is apparently nothing but a true milk globule imprisoned within the granular matter. The nature of these granular bodies is unknown; Donné supposes that they consist of fatty matter, and a peculiar mucous substance; they are not soluble in alkalies, but like true milk globules dissolve in ether, and after the evaporation of this reagent small heaps of acicular crystals remain on the glass. (*Cours de Microscopie*, par Alb. Donné, p. 400.) Although the existence of these granular bodies is commonly pecular to colostrum alone, yet Donné (page 421), observes that they and the other peculiarities of the colostrum (as the large irregular size of the milk globules, which, instead of floating free, are agglomerated, together in small masses,) may persist for many months, even to the end of suckling. The existence of this condition can only be discovered by the microscope, for the ordinary physical properties of milk, such as whiteness, consistence, and other characters, are preserved; and the nurse may continue in perfect health: the child, however, usually grows thin, although it is continually at the breast, and it commonly becomes attacked with diarrhœa. The milk in this case of M. Girard seems to have retained many of the characters peculiar to colostrum; he thus continues the narration of it:—]

The propriety of changing the nurse was now suggested and adopted: the milk of several was examined microscopically, and one selected whose milk appeared perfectly pure. This change had scarcely been effected two days, when the

diarrhœa and vomiting diminished, and speedily ceased altogether; the aphthous spots dssappeared, the tongue resumed its natural color, and the erythema faded. From this time the child speedily recovered its good looks, and became fat, its stools being natural, and sleep good.

Case III.—Madame R., aged 28, was delivered of her seventh child in February, 1842; a male, strong, and well formed. One of her children had died when six months old, from an affection characterized by ardent thirst, extreme emaciation, diarrhœa, with green stools, and glairy vomiting. The present child took the breast readily, and was apparently in good health, yet vomited occasionally after suckling; the milk to all appearance was perfectly good. About the beginning of the second month the vomitings increased in frequency. Supposing that the child filled its stomach too full, the breast was given to it less frequently, and a little *eau sucrée* substituted, yet after each time of taking the breast it still vomited, though it could retain other liquids; it soon grew thin and pale, and its bowels were alternately constipated and relaxed.

Towards the middle of the second month, the following symptoms suddenly occurred; the child screamed out, ceased to breathe, and became unconscious, its face and hands assuming a livid hue: this condition lasted for a few seconds, and then passed off spontaneously, leaving the child weak and faint for some hours. Within the next twenty days the child had many similar attacks, which came on at uncertain periods, both day and night, without any obvious cause; blisters, antispasmodics, and baths were employed, but without benefit. The vomiting still continued. The milk was now examined miscroscopically several times, at intervals of some days, and was found to present an enormous quantity of mucus without any other alteration. I informed the mother that it was essential the child should have other milk; this was repugnant to her, and she requested a few days' delay. Eight days afterwards, the vomitings having diminished, the milk was again examined, and presented a diminution in the quantity of mucus; but it again increased after a few days, and with this increase the vomitings returned as before. The child continued to grow thin; a little diarrhœa showed itself, and the chest affection remained. The mother, now becoming alarmed, consented to employ a nurse: the milk of seven different women who successively offered themselves, although to all appearance good, presented beneath the microscope either mucus, granular bodies, or other alterations; therefore they were re-

jected. At length one was obtained whose milk microscopically was perfectly pure. Two days after taking this milk the vomitings entirely ceased, so also did the symptoms of asthma, and neither of them ever reappeared; the child speedily became fat, strong, and well, and remains so to the present time.

At the conclusion of these cases, M. Girard remarks, that without wishing to generalize too much, or to establish a theory from a few facts, is it not, however, logical to observe here a relation of cause and effect? What do we see in the second case? A severe and frequently fatal affection, which was rapidly on the increase, had resisted all rational means adopted for its removal, and which yielded with the greatest facility to a change in the milk with which the child was fed. We observe this disease to coincide with the ingestion of milk impure and of bad quality, and we witness its disappearance with a truly marvellous rapidity as soon as milk of good quality is administered. And in the third case, although the symptoms were somewhat different, yet we observe them to occur coincidently with the ingestion of impure milk, and to cease when milk of a pure quality is substituted. Is it unreasonable to conclude that certain severe pathological conditions may be produced by alterations in the milk alone, and may be dissipated even when they have attained a very high degree, by a return to milk of good quality? It would be a point of much importance to ascertain whether these alterations in the condition of milk could at any time coincide with the maintenance of perfect health in the child; also it would be important to determine, if possible, whether a given alteration in milk most commonly or constantly induces such or such a pathological affection. Thus of the two cases last narrated we observe that in one a granular state of the milk induced an aphthous affection (the muguet), whilst in the other, a mucus condition gave rise to symptoms referable to the stomach and to the lungs; at any rate that these states were coincident with such affections. Of course it is not meant to be here implied that the pathology of infants is entirely under the influence of milk, but it seems probable that many hitherto inexpressible conditions may be so, and, moreover, that they might be explained by a simple examination of this liquid."—*Lond. Med. Gazette*, Oct., 1845, in *Amer. Jour. of Med. Sciences.—Illinois and Indiana Medical and Surgical Journal.*

A Case of Asphyxia from Drowning. By HENRY MORETON, M. D., Assistant Physician to the Bellevue Hospital.—James Welch, æt. 46, born in Ireland, was observed on Tuesday, 2d of June, 1846, to throw himself into the East River, at the foot of 26th street, during a temporary aberration of mind. Assistance was procured as soon as possible, and he was rescued from the water, after having remained in it for the space of ten minutes.

He was immediately conveyed to the Bellevue Hospital, where I saw him soon after his admission. I found him completely asphyxiated—the whole surface of the body cold, the face livid, the veins of the neck very much distended, the pupils dilated and inactive, and a frothy mucus exuding from the mouth.

He was immediately wrapped in hot blankets, and insufflation attempted, but without success. Friction with mustard and vinegar was resorted to, one person being employed at each extremity. This treatment was continued for twenty minutes, when tr. cantharid. and tr. capsici. were substituted for the mustard and vinegar.

Warm brandy and ammonia were then poured into the mouth, but the function of deglutition, as well as that of circulation and respiration, was entirely suspended. A stimulating enema was then administered and retained.

In consideration of the congested state of the lungs and brain, I now consulted with Dr. N. Taylor, respecting the propriety of venesection, in order to relieve this surcharged condition of the nervous system, the result of which consultation was, that although depletion might restore the circulatory and respiratory movements, still, in the before-mentioned condition of the patient, general depletion was thought to be inadmissible; but as the same objections could not arise from the *local abstraction of blood*, cups were applied over the thoraic and epigastric regions—after which, slight pulsations were perceptible at the wrist, but no action of the respiratory muscles.

One hour had now elapsed since his admission, the cups were renewed and the friction continued for half an hour longer, without any change for the better; when, considering his case almost a hopeless one, I thought myself justified in resorting to a powerful derivative, and accordingly applied boiling water to his feet and legs, which to the surprise and gratification of Dr. Taylor and myself, as well as to the patients in the ward, acted promptly in restoring him, as the man immediately uttered an exclamation of pain, drew up his

legs spasmodically, and in the course of two minutes was sensible, and reaction had thoroughly taken place.—*New York Medical and Surgical Reporter.—Boston Medical and Surgical Journal.*

Perforation of the Membrana Tympani for the Cure of Deafness.—A young woman was completely deaf in both ears for four years, caused by a severe cold. Catheterism of the Eustachian tube was performed, and said to fail. The membrane of the tympanum was pierced, a small piece being drilled out of the membrane of the right side. After the operation, the hearing was greatly improved. Next day, intense pain was experiencad in the ear. Remedies were applied, and in forty-eight hours a profuse discharge took place from the ear. This varied in quantity, day after day, for two months, the hearing being slightly benefited. In eleven weeks after the operation, the patient became more deaf than ever, and was constantly complaining of flying pains through the head; at one time fixing in the forehead for a few hours, at another in the occiput, and frequently in the temple, particularly in the right ear. In this state she continued for four months, when she was attacked with rigors, rapid pulse, intolerance of light, and all the symptoms of disease in the brain, and she died on the third day.

On examination, an abscess was found in the lower part of the middle lobe of the brain. No opening could be detected through the petrous portion of the temporal bone, but the dura matter covering it was roughened on the surface, and softened in its texture, particularly near the internal auditory foramen. The membrana tympani was entirely destroyed, and the lining membrane of the tympanum was considerably thickened and villous on its surface.—*Dublin Medical Press.—Boston Medical and Surgical Journal.*

Prize Essay of the Louisiana Medico-Chirurgical Society.—We are requested to announce to the profession, that at a recent meeting of this Society, it was resolved to offer a gold medal, of the value of one hundred dollars, for the best Essay *on Strictures of the Urethra, with their treatment.* This prize is offered to the competition of the profession in all countries; but the essays must be written in the English or French lan-

guage. The communications must be accompanied with a letter and corresponding mottoes to the President of the Louisiana Medico-Chirurical Society, New Orleans, La., and should be received by the first day of February, 1847.

The medical press throughout the country is respectfully requested to give publicity to this notice.

Here is the offer of a splendid prize, and we doubt not it will call forth the competition of great talent. The prize will be awarded at the anniversary meeting of the Society, on the first Wednesday of April, 1847.—*New Orléans Medical and Surginal Journal.*

On the Uses of the Lobelia Inflata. By Abraham Livezey, A.M., M.D., Lumberville, Bucks county, Pa.—In pertussis, combining the tinct. lobel. of which Prof. Eberle speaks so highly, with the acid hydrocyan., extolled by Thompson and Roe, with equal propriety might I vaunt the receipe as a specific, as they do theirs—although such a thing as a *specific* probably does not exist, except it be sulphur for psora. In asthma, especially of a spasmodic kind, the most marked benefits result from the use of this plant singly, or combined as above—the existing disturbance of the nervous fibre of the bronchial surface, or the spasms of the mucous membrane of the bronchia are speedily allayed, and by a short course, a cure, or a *suspension* of some length at least, is the sequence of its administration.

For an adult,

℞. Tinct. Lobel. inflat. ℥i,
Acid. hydrocyan. gtt. 1—11.
Ter quatuorve die.

But if the paroxysm be severe, the tincture may be given in much larger doses, and repeated at short intervals, till entire relief is obtained. By this combination, I have enabled several *inveterate* cases of asthma, (which had been repeatedly prescribed for by various physicians, quacks, and old women,) to pass, for several months past, with a complete suspension of all their sufferings.

In diphtheritic laryngo-tracheitis, where the excitation of emesis cannot be readily accomplished, which frequently arises from the nature of the disease as well as the difficulty and unpleasantness of the administration of medicine to infants, this difficulty may be obviated by enemata containing a portion of the tinct. lobel. or pulverized plant, which at

once relaxes the system, removes the tension of the chest, changes the seat of excitement to a distant part, and emesis readily ensues; the bowels in the meanwhile are emptied of their contents, and recovery from every distressing system immediately follows.

In all cases of coughs, especially when inflammatory symptoms manifest themselves, as in catharrhal affections in children as well as in adults, I consider the tincture of this plant (or infusion, when the stimulus imparted by the alcohol might be objectionable) far preferable to ipecacuanha or the tartrate of antimony and potassa, being more decisive in its effects than the former, and a better and safer nauseant than the latter, without that fear of irritating the gastro-enteric mucuous membrane, the pathological condition of which has been too much overlooked by earlier writers, but which is now claiming deserved attention.

This brings me to the consideration of the lobelia inflata in febrile disorders, incident to every section of country, more or less, in summer and autumn. When it is desirable (as in fact it is always so) to lessen vascular action, and as a febrifuge, the "nitrous powders" sink into utter insignificance in comparison with this plant, which is not liable to the same objection as the tartarized antimony used in combination with calomel and the nitrate of potassa by many of the older practitioners, which too frequently increases that tenderness and erethism already existing in the mucous membrane of the stomach and intestines.

In high vascular action, also, with cerebral disturbance, when the application of cups to the nape of the neck, &c., fails in restoring rationality to the censorium, the most admirable results follow the administration of an enema, largely composed of the lobelia; or when accompanied with enervation and subsultus tendinum, the efficacy of the enema will be much enhanced by the addition of a portion of pulv. valer. and tinct. capsicum or camphor, which when thus combined produces a powerfully revellent action, changes the scene of excitement, and leaves the cerebral functions free.—*Medical Examiner.*

The Morbid Effects of Tight-Lacing. By Thos. W. Carter, M. D.—The author of this article, which we find in the Southern Medical and Surgical Journal for July, arrives at *the following* conclusions:

That the excessive prevalence of uterine derangements, such as the various displacements of the uterus, abortion, menorrhagia, amenorrhœa, leucorrhœa, &c., are attributable to tight-lacing; that the same practice induces constitutional debility in females, which is transmitted to the offspring when they become mothers.

Since I entered upon the duties of my profession, I have frequently been called on by elderly ladies to answer the following questions:—"What is the cause of the modern prevalency of uterine derangements, and more especially of prolapsus uteri? Why, in our youthful days, was it of rare occurrence, to meet with a woman thus affected—while of late it is equally rare to find one who is not at times more or less troubled with falling of the womb." Such questions naturally suggested to my mind, as the cause, some impropriety in the habits of the females of the present day. I knew it to be an unequivocal fact, that cases of prolapsus uteri and uterine derangements, generally, in modern times, compared with those of former days, (with due regard to increase of population,) were greatly in excess, if not in the ratio of three to one.

My being at first unable to give a decisive answer to these frequent and very rational inquiries, actuated me to inquire into the subject of the modern causes of the diseases under consideration, which brought me to the following conclusions: 1st. That the excessive prevalence of uterine derangements, in modern days, is owing to the unnatural and destructive practice of tight-lacing, so general among the female sex. 2nd. That such a practice does induce constitutional debility in the female economy. 3rd. That this constitutional debility is transmitted from the mother to her offspring, or at least the effects wrought upon the constitution of the mother affect her offspring.

I now propose examining each successively in the order in which they occur.

I. *That the excessive prevalence of uterine derangements, in modern times, is attributable to Tight-Lacing.*

In enumerating the uterine diseases which appear often to be engendered by this destructive fashion, we find the various displacements of the uterus—viz: prolapsus, procidentia, retroversion, &c., standing first in the catalogue. 2nd, abortion; 3rd, menorrhagia, 4th, the various derangements of the uterine functions—viz: amenorrhœa, dysmenorrhœa, leucorrhœa, &c., &c.

1st. *The various displacements of the Uterus.*—The manner

in which tight-lacing is instrumental, in the poduction of these loathsome maladies, is plain and obvious. The cruel compression exerted by an unyielding bodice, environing the inferior portion of the thorax and the superior portion of the abdomen, cannot but act injuriously. It forces the contents of the abdominal upon those of the pelvic cavity. From the long-continued and almost constant intrusions of the abdominal viscera, the ligaments which support the uterus become relaxed and so much weakened as no longer to be capable of sustaining that organ, together with the weight of the whole contents of the abdomen thus forced down: consequently the uterus, by degrees, is forced lower down into the pelvic cavity, until prolapsus, or some other displacement, is the unavoidable result.

2d. *Abortion.*—Abortion may be produced by plethora of the uterine system, which, from the engorged state of the capillaries of the uterus, is adequately calculated to induce a separation of the ovum at any period of gestation. Such a condition of the uterus is known to be inimical to the existence and safe repose of the ovum in its cavity: consequently, under such circumstances, conception is not likely to take place, and if it do take place, is likely soon to be followed by a separation and expulsion of the germ. This condition of the uterus may be readily induced during gestation, (even in those who have previously enjoyed good health,) by the impediment offered to the free return of the blood to the heart, by compression necessarily employed in *tight-lacing*, as well as the mechanical pressure of the uterus upon the pelvic veins, when that organ is more compressed by the abdominal viscera.

Abortion may also be induced by an opposite condition of the uterine system to that above described—that of anæmia, relaxation, &c.

In ladies who have been tenacious in adhering to the modern fashions from early life, this condition of the system is of common occurrence. In them we find an ample evidence of the debilitating and relaxing influence of modern fashion on the female economy, and more especially upon the functions of the uterine system.

Abortion may likewise be induced by an "inability in the uterus to extend itself beyond a certain size." We can readily imagine this condition of the organ, in the victims of the modern laced-jacket.

3rd. *Menorrhagia.*—This hemorrhagic discharge may be *either* active or passive, or at least connected with a plethoric

or hyperæmic condition of the uterus, or with a debilitated or anæmic state of the general system. The former condition may be the immediate result of the mechanical impediment offered (by excessive lacing) to the free passage of the blood to the centre of the circulatory system, thereby inducing an engorged condition of the capillaries of the uterus. The latter condition (that of anæmia) may be the mediate or secondary result of this impediment offered to the circulation. The plethoric condition may not in every instance result in hemorrhage, but, by inducing menstrual irregularities and derangements, the general system will become chlorotic, and so much debilitated, the uterine capillaries relaxed, and the whole mass of blood so much vitiated and attenuated, as to result in passive menorrhagia.

4th. *Amenorrhœa*, *Dysmenorrhœa*, *Leucorrhœa*, *&c.*, *&c.*—That the many menstrual irregularities which appear to be so very prevalent of late years, are in a great degree owing to the infatuation of modern fashion, no one of observation and information will deny. It is true, there are other causes which are very efficient in the production and perpetuation of menstrual irregularities and derangements, but I think it will be conceded by the reflecting mind that many of those derangements are attributable to female dress, and that much of the suffering and inconvenience to which many females are subject might be obviated, if they would dispense with the laced-jacket.

II. *That excessive lacing does induce constitutional debility in females.*

The practice of tight-lacing, we have seen, is very efficient in the production of the uterine derangements, in which the general system of necessity must participate. The whole mass of circulating fluid appears to become deteriorated.

The female, notwithstanding all her native beauties and perfections of form and constitution, is now compelled to lie down upon the bed of affliction and deplore the loss of all her fascinating charms. Where is the rosy tint that once decorated these pale and blanched cheeks? Where is that sprightly, buoyant, benignant expression that once sat upon this dejected countenance? Where that symmetrical, that beautiful, lovely form? Alas! how changed. We now behold the pallid cheek, the lusterless eye, the distorted countenance, indicative of pain and suffering—the emaciated frame and incurvated body immaturely and untimely drooping into the grave, before half the days allotted to woman have passed away.

Perhaps it may be proper, while upon this division of our

subject, to notice some of the evil effects of tight-lacing upon the various organs of the body, and the multifarious diseases that may result therefrom.

The lungs appear to suffer materially from this practice. Any person of observation may satisfy himself of the truth of this assertion by observing the motions of the chest during respiration. He will observe that it is impossible fully to inflate the lungs. The respiration is short and quick, inspiration is about half as long as expiration, and there is a considerable interval between expiration and inspiration. During this interval, the lungs are inactive and blood is passing through them, without the benefit of the oxygen of the atmosphere, and thus proceeds unoxygenized to the heart—from thence to be distributed to the various organs of the body throughout the general system.

May not such a perversion of the function of respiration and consequent unfitness of the blood to subserve the important purposes of nutrition, be considered a very efficient cause of the early developement and maturation of the tuberculous deposition in the lungs? May it not be regarded a prolific source of that irritable and cachectic condition of the system which appears to characterize the modern fashionable lady. The heart, the stomach, the liver, and indeed almost all the viscera of the thorax and abdomen, appear to be obnoxious to injury from the improper encroachments of the laced-jacket, by which are induced, directly and indirectly, a host of diseases known to depend upon a deteriorated quality of the circulating fluid, together with a perverted and deranged nutrition.

Lacing, when carried to excess, is unfavorable to longevity in a high degree, terminating life ere the span be half measured. Show me a matron, who has attained her three score years and ten, and I will show you a lady who was a stranger to fashion in her youthful days.

For the purpose of corroborating the position I have assumed, let us draw a contrast between the rustic maid, and the city belle, the victim of modern fashion in mature life, when the duties of wife and mother devolve upon them. The former is sprightly, active, and vivacious—her countenance lively, animated, and expressive of good health—her mind buoyant amidst all the troubles and vexations necessarily attendant upon the duties of a mother and a housewife: she enjoys the blessings of health, and the socciety of friends; she possesses a calm, serene mind, and is capable of meeting *any* reverse of fortune with fortitude—she is blessed with

healthy offspring, and generally lives to see them grown up and acting for themselves. But the votary of modern fashion, how reversed her condition in after life! Her corporeal powers at an early period begin to evince decay—her intellectual faculties to manifest imbecility—her mind becomes irascible, and her temper fretful and peevish. Such women are generally sterile, or at most conceive but a few times. The first may possibly reach the full term of gestation, after which abortion is a common result. The functions of the generative organs finally become entirely or so nearly suspended as to render all possibility of a future offspring extremely doubtful.

III. *That constitutional debility is transmitted from the mother to the offspring, or at least, the effects wrought upon the constitution of the mother are felt by her offspring.*

The practice of excessive lacing interrupts to some extent the sympathetic communication between the uterus and mammæ, and when the functions of the latter are called into action, they are feebly and but imperfectly performed, consequently those unfortunate victims to the trammels of this delusive fashion, after the cares and duties of mothers devolve upon them, in many instances find it impossible to nourish at their breast their tender offspring. And besides the deprivation of that maternal pleasure, which all mothers find in nourishing their own offspring, she is constrained to witness as the consequence of artificial nourishment, the tortures and pains of disease, and frequently the agonies of death, from the supervention of colic, diarrhœa, or some of the many gastric and intestinal derangements to which children under such circumstances are peculiarly obnoxious. Here it is evident the sins of the mother are entailed upon her innocent offspring.

And farther, it is reasonable to suppose from the morbid condition of the system, met with in such women, that even when milk is secreted in sufficient quantity for nourishment, it is of a very deteriorated quality, calculated to ruin the health, and undermine the constitution of her child.

I have now answered, to the best of my humble abilities, the questions so often propounded to me; if satisfactorily, I shall be truly gratified—if otherwise, I hope a better explication will be furnished by some one better qualified than myself to do justice to so interesting and important a subject.—*Southern Medical and Surgical Journal.*

The Endermic Application of the Sulphate of Quinine. By H. V. Wooten, M. D., of Lowndesboro', Alabama.—In July, 1842, I was called to a lady affected with intermittent fever, of a rather grave type. She had suffered several paroxysms, and the fever now continued through the apyrexia. She was entering upon the fourth month of pregnancy, and suffering extreme irritation of stomach. A physician had been prescribing for her several days, during which time the sulphate of quinine had been given in combination with morphine and various other anodynes, and aromatics, but all had been instantly rejected. The bare effort to swallow produced retching, and it appeared that nothing could remain on the stomach, not even a small quantity of the ordinary secretions. Another paroxysm was expected in about four hours. I advised the administration of sulphate of quinine xx. grs., sulph. morph. ½ gr., in ʒi. gum arabic mucilage, to be thrown into the rectum, and repeated in three hours. I had found this mode of administration to answer an admirable purpose, in a few cases before, but the rectum seemed as irritable as the stomach, and the enema was promptly rejected. It was repeated and rejected three times, which I learned on my visit next day, and the paroxysm occurred at the regular hour. At every chill she was attacked with uterine pains so severe as to threaten abortion; and aside from that danger, her general condition presented rather an alarming aspect. The remedial powers of the quinine seemed to be absolutely necessary in the case, and the only remaining way of introducing it was by endermic application. It was about twenty-six hours to the time for the next paroxysm. There was already a blistered surface over the epigastrum about seven inches square. We cut a piece of adhesive plaster large enough to cover it, laid the plaster upon the bottom of a warm waiter, and when it was sufficiently soft, poured the quinine upon it, and rubbed it on with a spatula, until it formed a complete covering of the plaster, and applied it over the blister. We prepared another, twenty inches long, and three wide, which we applied to the spine, from the cervical vertebræ downwards, after sponging the skin with warm water. These plasters were kept carefully applied, (enough of the margin being left uncovered to adhere to the surface,) and nothing taken into the stomach but a few drops of water occasionally, when thirst rendered it absolutely necessary, until after the hour for the paroxysm, with the happiest effect. She had no chill, and as the chill was the cause of the uterine pains, and greatly aggravated

the other symptoms, with it, she got clear of most of her distress, and improved very finely.

I have applied the sulphate of quinine endermically in four other cases, where, from various circumstances, I could not introduce it in a more direct way, and in every case with effect. I could detail them, but the practical result being so similar to the foregoing, it is unnecessary. I may mention, however, that in two cases the remedy was applied over a blister on the epigastrium, and in these it was successful in arresting the first paroxysm. In the two other cases, there was no blister, either on the epigastrium or spine; in one, it failed to arrest the first paroxysm, and succeeded on the second; in the other, it arrested the first, as in those cases where it was applied over a blister.—*Ibid.*

Trismus Nascentium.—The editors of the Southern Medical and Surgical Journal, for July, noticing Dr. Sims's plan of preventing trismus nascentium by providing the infant with a soft pillow, say, "We have given the above directions a fair trial, and like every other treatment for lock-jaw in infants, we have to write—'*Tekel.*'" On the same subject the N. O. Medical Journal contains the following:

[In compliance with the call made in our January number, for information concerning this fatal disease, we have been favored with the following letters, which we take pleasure in laying before our readers. We have but little doubt that the cause of the disease is intimately connected with the management of the umbilicus, and therefore think our correspondent's suggestion valuable. In connection with this subject we will mention, that a Creole professional friend recently informed us, that *Trismus Nascentium* was much more common amongst the plantations below the city a few years ago, than it is now; and that the present exemption is attributed to a plan of managing the navel adopted within the last few years: it consists simply *in dressing it with balsam copaiba.* We learn, that since the adoption of this, the disease is scarcely known in that neighborhood. We should be pleased to receive farther facts and suggestions on the subject.—We had expected to insert Dr. Fitzhugh's communication in our last number, but it was unavoidably postponed. We now have the pleasure of adding Dr. Wooten's interesting letter on the same subject, which has arrived just in time for the press. Dr. W. seems *to doubt the correctness* of the opinion we ex-

pressed in our last number, that this disease is more common in this city than any where else in the United States. Our remark was solely based upon the large number of cases found among our bills of mortality. We should be pleased to receive farther facts and observations in relation to its prevalence throughout the southern States, and especially as to its comparative frequency among white and black infants. The disease certainly occurs among both classes in this city, but to what relative extent we are not prepared to state at present. We repeat our invitation for farther facts.—Edrs.]

Messrs. Editors: Having observed in your valuable journal, the great mortality in your city from *Trismus Infantum*, or *Tetanus Nascentium*, I am induced to offer the following view of its cause.

I have seen three cases only, all of which proved fatal. The symptoms were precisely those stated by Dr. Eberle in your January number; I therefore deem it unnecessary to repeat them.

The treatment which I adopted in these cases was somewhat different in each. I, however, blistered the abdomen, gave calomel, tinct. opii, oil, &c., without any good effect whatever. I doubt not, if taken in time, the treatment recommended by Dr. Eberle would be very efficient.

It is the cause of this alarming disease, however, which I wish to consider. Believing it proceeded from some mismanagement in dressing the navel, I requested the owner of that plantation to let me know when the next accouchment took place. He did so. I attended particularly to the dressing of the navel; following the plan usually pursued, that is, folding a piece of linen three or four times, making a hole in it for umbilical cord, then applying bandage three inches wide, and three or four feet long, drawing it pretty tightly, so as to give sufficient support to abdomen, passing it around three or four times. This child never had an attack of *fits*, as they termed it, and is now in fine health. In a few weeks I had another opportunity, which resulted, under the same management, with equal success. Previous to this there had been some fifteen or twenty deaths from this disease on this plantation. I have every reason to believe that it depends upon the manner in which the abdominal bandage is applied.

The dressing of the infant is generally—I might say always—left to some female present, and for fear of *hurting the navel*, she applies the bandage too loosely; the consequences *are, when* the child cries, the umbilicus is protruded, in some

cases, slight umbilical hernia, and otherwise irritating the navel, although it may externally appear perfeclly cicatrized.

The navel should not be troubled or examined under four days, after removing it: the bandage should again be applied, and worn for three or four weeks, or as many months would not be amiss.

It has been supposed by some that the disease has been produced by using old rusty scissors to divide the cord: this I am confident is not so, having known the nicest instruments used with no better success.

I hope physicians having an opportunity of testing this, will give it their attention. Respectfully,

F. M. Fitzhugh.

Madison county, Miss., Jan. 20, 1846.

Lowndesboro', Ala., March 20th, 1846.

Messrs. Editors: After stating the mortality of New Orleans in 1845, you remark concerning *Trismus Nascentium*, that "this affliction is much more common here, than any where else in the United States, and demands careful investigation."

After assuring you that the result of such "careful investigation" would form a chapter in your Journal of the highest interest to me, at least, I must beg your indulgence in the expression of a doubt of the correctness of your opinion in regard to the disease being more common in New Orleans than any where else in the United States. It is a disease of fearful frequency on the cotton plantations in this section of Alabama. I am not prepared to compare it with other maladies in respect to frequency, but I believe that it destroys more negroes than any other single disease, in this region of country. In a practice of ten years amongst these plantations, I have seen a great many cases. Sometimes, I have found it of such frequent occurrence as to present the appearance of an epidemic. Yet *I have never seen a white child afflicted with the disease.* Is this the case in New Orleans?

Again: I have never seen a case of *decided* Trismus Nascentium that did not prove fatal. Indeed, so well is this characteristic of the disease now known, that it is very generally deemed utterly useless to call in medical aid, after the initiatory symptoms are well developed.

I have tried every plan of treatment which books, or the most anxious study on my part could suggest, but all wholly in vain.

I have made post-mortem examinations in several cases, and

found the pathological appearances as uniform as in any other disease. They are as follows:—Heavy vascular engorgement of the peritoneum throughout its whole extent, denoting the highest inflammation. All the portion surrounding the entrance of the umbilical cord into the abdomen, for a circumference of from one to three inches, was in a gangrenous condition. The liver was unnaturally heavy and stiff, with its veins fully injected with fluid blood. There was also heavy engorgement of the substance and membranes of the base of the brain, and along the medulla oblongata, and cervical portion of the spinal marrow.

I have usually observed the first symptoms to make their appearance about the time the umbilical cord comes away, and from this I at first supposed that it was the effect of awkwardness in dressing the navel by the ignorant midwives who usually attend on the plantations, but careful investigation led to nothing conclusive on this point.

Having taken the liberty to offer you these few facts, under the hope that they will not be entirely useless to you, allow me to subscribe myself,

Your obedient servant,

H. V. Wooten, M. D.

The Age at which Insanity is most Prevalent.—To determine the period of life which furnishes the greatest number of insane persons, it is sufficient to bring together the records, made up under different circumstances. One of them, made at the Bicêtre, where poor men are received; another, at the Salpêtrière, a hospital destined for poor women; the third, at an establishment devoted to the wealthy. From these reports we may conclude:—1st, that the age which furnishes the greatest number of insane, is, for men, that from 30 to 40 years; whilst for women, it is that from 50 to 60 years; 2nd, that the ages which furnish the least, are, for both sexes, childhood, youth, and advanced age; 3rd, that among women, insanity appears earlier than among men, indeed from 29 to 30 years of age; 4th, that the rich are afflicted, in comparison with the total number of insane persons, in a greater proportion than the poor.—*London Lancet.*

THE WESTERN JOURNAL.

NEW SERIES.—VOL. VI.—No. II.

LOUISVILLE, AUGUST 1, 1846.

MEDICAL SOCIETY OF TENNESSEE.

It was with unfeigned pleasure that we received, a few days ago, a pamphlet containing the Proceedings of the Medical Society of Tennessee at the seventeenth annual meeting, held in Nashville in May last. This Society is growing almost venerable; it has lived a good way beyond a quarter of a century, which is a long period for institutions in our country founded upon the voluntary principle. But, we trust, it has many years of usefulness still before it, and will go on to the end of its century without evincing any signs of decay.

The officers elected at the late meeting of the Society were—A. H. Buchanan, President; Daniel McPhail, Vice President; R. Martin, Treasurer; C. K. Winston, Corresponding Secretary; and J. W. Stout, Recording Secretary.

Among the medical reports made to the Society were, a case by Dr. Felix Robertson, of ulceration of the bladder, by which a communication between that viscus and the rectum was established; a case, by Dr. R. Martin, of an acephalous monster; a case, by Dr.

A. W. Nelson, of removal of the condyle and a portion of the ramus of the inferior maxillary bone; a case, by Dr. Irwin, of injury of the spine; a case, by Dr. Manlove, presenting all the symptoms of hydrophobia which he attributed to lead poison; a case, by Dr. Overton, said to be "well authenticated," of hydrophobia cured by a strong decoction of phytolacca decandra, and a case of the same disease, by Dr. Robertson, cured by cantharides given to the extent of exciting strangury. These reports will be looked for with interest by the profession, and, no doubt, will soon be made public.

At the meeting of the Society in 1845 a prize of fifty dollars was offered for the best essay on *Scrofula*. This, it appears from the printed proceedings, drew forth four essays, the most meritorious of which was pronounced to be one written by W. L. Sutton, M. D., of Georgetown, Ky. We shall have the pleasure, we presume, of laying it before our readers, as by an order of the Society it is to be forwarded to us for publication. Dr. Sutton, it will be remembered, was successful, a year ago, in winning the prize offered by a lady for the best essay on the "Health of Clergymen." The practice of tendering premiums for papers on medical subjects of special interest is a good one, and it is pleasing to see that it is beginning generally to prevail among the medical societies. The Louisiana Medico-Chirurgical Society offer a gold medal, of the value of one hundred dollars, for the best essay on *Strictures of the Urethra*, to be awarded in 1847. Last year a prize was offered by the Medical Society of Alabama for the best essay on *Congestive Fever*, which was taken by Dr. Mabry, of Selma. The same Society is now offering a prize for the best *Medical History of Alabama*. The medical talent of the country will be brought out by these calls.

PROFESSOR BARTLETT.

The Western Lancet, referring to the appointment of Dr. Bartlett as Professor of the Theory and Practice of Medicine in Transylvania University, says, "his last letter contains a formal acceptance of the Chair." He is expected in Lexington before the opening of the lectures in November. The Lancet speaks of his health as being good.

UNIVERSITY OF LOUISVILLE.

From an advertisement on the cover of our Journal, it will be seen that the Medical Institute of Louisville comes before the public, this season, under a new and more imposing name. It is now the Medical Department of the University of Louisville. The change of name does not, in any way, affect its organization; but it is the same school in Faculty, buildings, and all the apparatus and means of instruction. Under its new name the school enters in November upon its tenth year. It is now able to refer to a numerous host of graduates as the fruits of its labors, and is willing to be tried by the scriptural rule: "Give her of the fruit of her hands, and let her own works praise her in the gates."

Other departments, it is expected, will be organized and put in operation, ere long, when we shall have in reality, as we now have on paper, a university in Louisville. Meantime the medical school has gained by the new charter. Before, it was subject to agitation, and every year brought attempts at change; now it rests upon a basis of security, and has only to go forward in the cultivation and advancement of medical science and learning. Its career, thus far, has been prosperous, and with its faculty will be the fault if its prosperity be less in coming years.

THE WEATHER—THE HEALTH OF LOUISVILLE.

Reports from all quarters speak of intensely hot weather. We hear of 100°, and upwards, in Boston. In St. Louis on the 5th of July the thermometer is said to have risen in the shade to 102°; and for three days afterwards it ranged there from 96° to 99°. Some of the thermometers in this city indicated a temperature of 96° about the same time, but our own never stood higher than 93°. Sunday morning, July 12th, it stood at 80°, at sun rise, and, at 3 o'clock, at 92°. On the 15th it was down to 60° in the morning, and on the 16th as low as 56°—a range of 40° in four days, taking the highest figures named as correct. Our London Correspondent mentions that the same extreme heat has been experienced there, which is very unusual for that climate. Writing, June 17th, he says:

"You speak in your last letter of the temperature of Kentucky,

and add, that I am not suffering in London from any such heat. You are mistaken; I do not remember ever having, in June, been so much affected by heat. That you may see what reason I have for complaining, and have what, as a meteorologist, I know will will interest you, I send you a table of the weather kept here during one week.

		Lowest previous night.	Highest in the shade.	Highest in the sun.	Average of extreme cold.
June	7	64	88	108	
	8	62	79	98	
	9	57	77	93	
	10	57	70½	78	60·02°
	11	51	80	95	
	12	62	83	101	
	13	63	85½	110	
	14	63	86	109	

"The average temperature by the shade thermometer was 81·92, and by the sun register 102·30; so that the first thirteen days of June may be said to have afforded a continuous average of temperature of about 82°."

The health of Louisville has continued good up to this time. The sexton reported the number of interments for the two weeks ending July 14th, to be adults, 15; infants, 18. Perhaps bowel complaints have prevailed more generally among children than for some summers past, but the mortality among that class of our population has not been great.

EAST TENNESSEE MEDICAL SOCIETY.

We have received from Dr. Ramsey an excellent essay by Professor Dickson *on Quinine*, read before the Medical Society of East Tennessee at its meeting in May, which will appear in our next number. This was the second annual meeting of this Society, and was spirited and interesting. We hope to receive fuller accounts of its future meetings. The officers of the Society for the ensuing year are, J. B. Reese, President; S. B. Bowls and W. F. Barr, Vice Presidents; F. A. Ramsey, Corresponding Secretary; R. B. Strong, Recording Secretary; Wm. Rodgers, Treasurer.

CONNECTICUT MEDICAL SOCIETY.

We have received a neat, well printed pamphlet of 36 pages entitled "Proceedings at the Annual Convention of the Connecticut Medical Society, May, 1846, together with a list of Members and the Annual Address." The officers of this Society are, Archibald Welch, M.D., Presdent; Dyer T. Brainard, M.D., Vice President; V. M. Dow, M.D., Treasurer; Gurdon W. Russel, M.D., Secretary. The Society has been in existence half a century, and we learn that as long ago as 1794 a paper was read by Dr. S. H. P. Lee, at one of its meetings, on *Autumnal Bilious Fever.* From 1804 to 1817 there seems to have been an intermission in its labors, since no dissertation is reported as having been read during that time. The Society at its late meeting passed resolutions highly complimentary to the Medical Institution of Yale College. The annual address was delivered to the Society by Theodore Sill, M. D., the subject being typhoid fever. Every one who feels an interest in the progress of the medical profession must be gratified at the spirit exhibited by the Societies which now annually hold their meetings in so many States in the Union. Where there is so much united, well directed effort, there will be results. A more liberal, fraternal feeling is awakened among the members, and the impulses of a generous ambition are quickened in all the ranks of the profession.

DR. FORBES AND HOMŒOPATHY.

In a late number of our Journal we noticed an extraordinary publication by Dr. Forbes on the subject of homœopathy. This publication has drawn down upon the author a good deal of animadversion and complaint, and he has felt it necessary to enter into a long explanation in the *British and Foreign Medical Review*, of which he is editor, and in which his singular paper first appeared. We have not room, at present, to give up to any detailed account of his reply to the various letters addressed to him, but our readers, we are sure, will be gratified to see such language as the following put forth by him:

"But it never was imagined, much less contended for by the author of the article, that the treatment of diseases should or could be

exclusively left, in all cases, or even in any considerable proportion of cases, to this hygienic or non-medicinal system of management; or that we are not possessed of many drugs of the noblest powers, and of known and unquestioned efficacy in the mitigation and cure of many diseases. To do this would be, in the first place, wilfully to reject evidence of the most positive kind; and, in the second place, wilfully to encounter disease with only one-half our stock of arms and ammunition. And it would seem hardly less irrational for a physician of any experience to deny the efficacy of such general means as venesection, emetics, purgatives, or the individual power of such drugs as opium, mercury, iodine, quinine, iron, colchicum, &c., in controlling diseases, than for the soldier to denounce as useless the very weapons which had often enabled him to vanquish and overcome. Here, as in the former case, the writer's anathemas were directed against the abuse or improper use of the medicines, not against their proper use. In making this explanation, however, he must still avow his belief that of a very large proportion of the drugs in common use we are entirely ignorant of the action, or whether they have any action or not; that many are certainly useless and others injurious; that of the number which possess undoubted powers in modifying the condition of the animal body, in health and disease, we have yet to learn the exact mode of action, and the amount of remedial efficacy; and that in the administration of our very best medicaments we are absurdly profuse, and thus, not seldom, convert into an evil what nature intended for, and science was capable of applying as a blessing."

DUNGLISON'S MEDICAL DICTIONARY.

This Dictionary has reached the sixth edition, and prefers claims upon the attention and regard of students which cannot easily be resisted. If it is not "*indispensable*" to the profitable prosecution of their studies, it will be found so useful, so satisfactory and desirable, that not many will agree to do without it. In proof of the care bestowed upon this edition of his dictionary, the author remarks that it "contains nearly two thousand five hundred subjects and terms not contained in the last edition." We speak of the merits of this lexicon from long acquaintance with it; and of the many works to which we acknowledge ourselves under a debt of gratitude, there are few of which we should speak in terms of more hearty commendation than the dictionary of Professor Dunglison.

FACTS FROM CORRESPONDENTS.

A SHOWER OF MAGGOTS.

Communicated by *M. H. Fee*, M.D., of Leatherwood, Ia.

A strange phenomenon occurred in this town on the 18th inst., in the form of insects, commonly called "*skippers*," falling from a cloud accompanied by rain. The truth of the thing can be substantiated by at least six persons in the vicinity of my residence, whose attention was called to the circumstance by myself. The cloud arose in the west about 1 o'clock, P.M. The general course of Leatherwood creek at this place, and for a mile or two below, is west, so that the cloud in approaching the town touched many parts of the creek. A few minutes before the rain commenced falling here, I heard the noise of a water spout, or what Dr. Lardner terms, I believe, "partial attraction," about two miles below this, in the direction of the general course of the creek. The character of the noise, I cannot describe; all I can say is it was a *peculiar* noise, differing entirely from the sound of wind at a distance, or of murmuring thunder. I may very appropriately say of it, what Dr. Laennec says of the peculiarity of sounds in the thorax, in auscultation, "known only to the practised ear." Now, the only reasonable conclusion I can come to with regard to the manner in which these insects got their elevation in the air, is, that the "water spout" in its course up the creek, had passed over some stagnant ponds, or puddles, in which the dead carcass of some animal had been lying partially covered by water for perhaps months, or at least for such a length of time as was necessary for the generation of maggots, which were drawn up with the surrounding water.

The appearance of the maggots corresponded in every particular with that of the "skipper" found in bacon. They varied in length

from one-eighth to one-third of an inch; were blunt at the hinder end, sharp at the head, and covered, as far back as the head extended, with short, black, bristly hair. After the shower was over and the sun came out, the heat caused them to double themselves and skip about from place to place, in search of shade.

June 22d, 1846.

Dr. Fee records an interesting phenomenon, but one by no means unprecedented in the annals of meteorological science. Many well authenticated instances are on record of animals precipitated from the upper regions to the earth during storms. A few years ago a number of small fish were picked up on one of the roads leading out of Louisville, two miles from the river, whence they had been carried by a gust of wind, the preceding night. We conversed with a gentleman in Jeffersonville, sometime since, who, in a hurricane which swept across the river just above the falls, saw fish going up with the ascending column of water. Frogs have been known to be carried up in a similar manner, and to fall at considerable distances in numbers. In tornadoes it is well known that even heavy bodies, as the branches of trees, are often elevated to great heights, and transported many miles. The surprising circumstance in Dr. Fee's case is that the storm should have come across the "skippers;" but that hardly equals the Tennessee wonder, in which the clouds poured down "flesh and blood." Our friend, Dr. Troost, the distinguished professor of Chemistry and Mineralogy in the University of Nashville, published shortly after this strange occurrence a learned paper on the subject of it, in which he gave an account of a great variety of bodies which have been seen to fall to the earth in different countries and at different periods, having been previously elevated into the air by the force of the winds. We regret that we have mislaid the interesting article and are therefore unable to copy some of its details.

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

EDITORS.

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PROFESSOR OF PATHOLOGY AND THE PRACTICE OF MEDICINE
IN THE MEDICAL INSTITUTE OF LOUISVILLE:

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PROFESSOR OF CHEMISTRY AND PHARMACY IN THE SAME:

THOMAS W. COLESCOTT, M.D.

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SEPTEMBER, 1846.

ART. I.—*The History, Value, Uses, and Effects of Quinine and its various Salts.* By SAMUEL HENRY DICKSON, M.D., Professor of the Institutes and Practice of Medicine in the Medical College of the State of South Carolina.

In compliance with the request of the East Tennessee Medical Society, I proceed to make a few remarks upon the History, Value, Uses, and Effects of Quinine or Quina and its various Salts. In the following pages I wish it to be understood, that my principal purpose is to collate and compare the views of others rather than to offer anything original on the subject. It would save any practitioner much time and enable him to avoid many errors, if he could obtain a clear statement of what his brethren had done and were doing, in regard to the management of the numerous forms of disease and the remedies employed for their relief and cure.

As in science and the arts generally, the earlier and more important discoveries were made in the East, so in medicine we derive from the same quarter of the globe some of our most impressive drugs. The use of opium alone, learned by the Crusaders from their Saracen enemies, may be regarded as a compensation, not inadequate, for all the evils inflicted upon Europe by this madness of the Middle Ages. The Asiatics, passing their lives in violent alternation between enthusiastic action and torpid repose, sought solace every where in the influence of powerful narcotics; and found in the gunjah and poppy the means of "steeping their senses in forgetfulness" and losing, in a blissful unconsciousness, the impatience natural under all sufferings.

When this western world was opened to the older sons of civilization, by the voyages of the two Italians, Colon and Vespucci, it soon became known that here also existed one narcotic worthy of being added to the resources of our restless race; and tobacco rose rapidly into favor in the Eastern hemisphere in spite of sage, moral, and royal denunciation. It is not however stated that, in the aboriginal practice of America, this weed has ever obtained a place; nor is it indeed a very great while since the bolder and more reasoning European has ventured upon its prescription in definite formulæ.

So far as I am aware, *Cinchona* is not mentioned at all by the first set of voyagers who landed upon the continent, nor have we any available information, either as to the period in which it came to the knowledge of the natives, or the mode in which they were led to its application to the cure of fevers. This last must be, from the nature of circumstances, a topic of unusual obscurity. In the narcotics of obvious influence above mentioned, accident, on the one hand, occurring during their habitual use, and on the other, a plain analogy, would point out their power to relieve pain and sooth restlessness, such frequent elements of disease. But cinchona, notwithstanding the absurdities affirmed by the homœopathists of the thousand and one symptoms to

which it gives rise, is not in this way at all suggestive; and it would seem must owe to the merest chance its introduction into the Materia Medica. There is some doubt indeed whether this occurred to the aborigines at all. Vespucci, who gives an account of the manner of treating fevers resorted to by the Indians with whom he met, describes only their harsh methods of forcing an abundant sweat by rough exercise and vehement alternations of temperature. We are indebted to the Jesuit missionaries for the Peruvian bark, which their European experience may have led them to employ as a bitter tonic in febrile debility, and must not withhold from the good Fathers our thanks for this excellent boon to humanity. They have found their reward, doubtless, in Heaven; earth could offer nothing to recompense them for their saint-like beneficence and lofty self-devotion.

Cinchona soon grew to be a favorite with the profession on both sides of the Atlantic, and one is surprised at the readiness with which its application was extended from one form of disease to another, until it had been duly experimented with, in all or nearly all "the ills that flesh is heir to." This application became gradually more and more restricted, as a sort of gradual approach was made to the physiological notions (so called) that culminated and fell with Broussais; requiring us to refrain from stimulants in cases of hyperexcitement, and finding hyperexcitement almost everywhere. Universally regarded as a tonic and a stimulant, those who, with Brown and many of his predecessors and contemporaries, saw debility in all morbid action, were not apt to be deterred from its use even in fevers and inflammations.

Perhaps it was among West Indian practitioners, that there arose the two doctrines which gave a definite direction for a long while to the therapeutical employment of cinchona: I allude to the opinions even now prevailing, first, that it possesses an antidotal influence in contrast or opposition to that of the marsh poison, whatever it may be, malaria; and second, that it is essentially an antiperiodic, gifted with

power to arrest all maladies of intermittent and paroxysmal recurrence. Consider how many pretexts became accumulated for the exhibition of bark. It was earliest introduced as a specific febrifuge, and prescribed in all fevers. It was next used by many as a tonic, and thus old Lieutaud recommends it in quotidians, because "besides its febrifuge virtue, *appertaining but little to this species of fever*, it obviously possesses a stomachic and roborant quality." Of course this adapted it to a long list of maladies. The most recent English writer on materia medica, Johnson, still asserts that "the great value of cinchona consists in the power which it possesses in arresting periodic or intermittent diseases." On this side the Atlantic, the profession, with great unanimity, hold to its antimalarial virtue. But McCulloch has taught us that masked, or obscure, or confused impressions from the malarial poison, may give rise to or modify almost all diseases of every class, order, and genus; and observation convinces us of the very general tendency to follow notable periods of remission and invasion or exacerbation.

Nor were our elder brethren slow in urging forward the remedy to obtain decided effects from large and impressive doses. Not to dwell on the practice of the West Indian physicians, the amount of half an ounce and an ounce was given even in London, by Huck and Fordyce. If the calculation be correct that five grains of quinine are equal to a drachm of bark in powder, we need not discuss, any longer, the question as to the merit of the first administration of large doses; *forty-five* grains of the former would satisfy most of our boldest practitioners.

But this dose was disgusting, offensive, and difficult to retain on the stomach, and we must congratulate ourselves and the world renewedly, upon the detection and separation of the alkaloid principle, in which resides the chief virtue of that Peruvian tree which has so long given health to the nations. I need not here say anything of the process by which Pelletier and Caventou were led to the discovery of this alkaloid and its convenient and invaluable salts. Honor

to the men and country from whom we derive these gifts! Well do they deserve our gratitude and admiration. To France and to the French belong indeed the true glory of the highest civilization. Warlike in temper and of unlimited ambition, they yet feel, acknowledge and act upon the sentiment that the meed of fame does not appertain to courage only; but that the fairest laurels may be won as well by the skilful and devoted physician as by the brave soldier.—France and the French alone reward alike the arts of peace, and benevolence and preservation, with those of force, devastation and destruction.

The preparation of quinine in common use is properly a disulphate, though called universally the sulphate of quinine. It is nearly insoluble in water, but its solution is readily effected by adding a few drops of sulphuric acid, which converts it into the neutral sulphate and the bisulphate. There has been some question whether this quantity of acid may not exert an injurious influence upon the mucous surface of the digestive tube. This may easily be avoided I think; for I have not been able to perceive any difference of time between the effect of a solution of acid or neutral sulphate, and a diffused mixture containing the same quantity of disulphate in a little mucilage. The medicine, doubtless, passes rapidly into the circulating mass; for although it has not been detected in the blood, it is promptly found in the urine.

The specific nature of this important therapeutical agent; its essential tendency to affect certain organs or systems; to modify exclusively or peculiarly certain functions or sets of functions; these are topics of high interest, and have, especially of late, been widely and warmly discussed. I agree with those who rank it among the narcotics. Its action is eminently determined upon the brain and nervous system; and upon these it produces an impression altogether characteristic. A moderate dose given to a person in health, an overdose in the case of an invalid, will give rise to tinnitus aurium, a buzzing or rushing sound in the ears, combined with more

or less deafness, a throbbing in the head, cephalalgia, occasionally some photophobia, and almost always, in greater or less degree, that state of mind and body which we call "nervousness," in which the hands tremble, the senses are readily startled by a sudden impression (as by an unexpected noise or jar), and the temper is petulant and irritable. The pulse in some persons becomes slower, in others it is more frequent.

The toxical or poisonous effects of quinine are very rarely met with among us. Having established the state or condition above described, now familiarly referred to in the use of the term quininism, few persist with the medicine or increase the amount exhibited. From authors we collect the following list:—vertigo; amaurosis; deafness; paralysis; prostration, as shown by smallness and rapidity of the pulse; coldness and paleness, or lividity of the surface; urticaria; cold and clammy sweats; cardialgia; nausea and vomiting; diarrhœa and dysentery; congestion of the lungs, as shown by dyspnœa and other signs; hematuria; a disposition to abortion in pregnant women; epileptic symptoms; delirium; coma; and in a few instances death. Some ascribe a portion of these accidents at least, as I have already said, to the amount of sulphuric acid requisite to the solution of the quinine. On the other hand, Briquet, in whose practice two of the fatal cases happened, lays great stress upon the completeness of this solution; dreading the accumulation of the insoluble disulphate in the digestive tube, and its sudden converson into a state of activity by some profuse secretion of acid. Briquet believes that when using the quinine in solution we shall always be safe, if we desist from if when prostration and vertigo appear, or the increasing frequency and smallness ot the pulse indicate a dangerous depression of the circulation. I have elsewhere entered into some details on this subject, and beg to refer to the Southern Journal of Medicine and Pharmacy, vol. i, No. i, for a history of two or three instructive cases.

It would be difficult to point out the fatal quantity of this agent. In one of the deaths occurring under the care of M. Briquet, the patient took "a comparatively small quantity of quinine;" in another not quite one hundred grains in two days; in a third, treated by M. Recamier, the fatal result took place from the exhibition of about one hundred and twenty grains, in doses of five grains every hour. Furious delirium with extreme agitation supervened, and death in a few hours; autopsy revealing an intense meningitis. We are accustomed in this country to the employment of *so much larger quantities* without injury, that we very readily admit the views and explanations of Briquet, who attributes the two first of the deaths spoken of, to other causes, developed on post-mortem examination, and considers the meningitis of the last to be an accidental coincidence. We shall see by and by that quinine has been used freely, and, as is alleged, successfully, in very serious inflammatory and quasi inflammatory affections of the brain and its membranes.

Of cinchona, either in powder, or infusion, or extract, there is no poisonous dose so far as we know. When an ounce or more of the powder has been taken, the stomach may be offended and reject it, but there are no worse consequences. Its bitterness is not very intense. Its tonic quality I am not inclined to doubt; but it is not clear that this belongs at all to the quina which it contains. Besides the cinchonine, whose influence is supposed to be closely analogous to that of quinine, it holds several vegetable principles together, of which, perhaps, the gallic acid and tannin may be the stimulant or excitant as well as astringent agents. In view of this varied composition of the drug, I am led to regret sincerely the disposition to abandon its use altogether; the indifference of the profession in procuring, selecting, and preserving it; and the almost universal desertion of nature's admirable combination of its constituents, for the elegant and invaluable preparation of one of its elements yielded us by art. I am persuaded that a proper discrimination should be attempted here; and that as there are still many severe mal-

adies, in which we prefer to trust the crude opium rather than morphine and its delicate formulæ, so there are certain cases even of fever itself, which would be more decidedly benefited and would convalesce more thoroughly under some of the well chosen though almost obsolete modes of exhibiting cinchona, than the more recent and simple administration of quina and its salts.

I have already said that I regard quinine as a *narcotic.* This peculiar and vehement influence is clearly pointed out, both in its curative and poisonous effects. But this, it is contended is not all. Prof. T. Mitchell strenuously maintains its possession of a direct *febrifuge* or antifebrile power, and Professor Harrison agrees with him, that if anything can check or put an end to fever, quoad fever simply, it is this antidote. Its antiperiodic virtue is strongly insisted on by a large class of physicians, among whom we may select Cazenave as having adapted it to the treatment of diseases of almost indefinitely long intermission; and Miller who applies it equally to intermittent affections so short as to require nice observation. Of its *antimalarious* property I need say nothing; it is in our own country universally believed, and questioned by none any where except those who deny the separate existence of the marsh poison. Its *sedative* quality is by some supposed to be clearly made out—Boling and M'Cormick, with many others, have gone far to establish the fact, that it may be used with perfect safety, even where there are present the most decided symptoms of inflammation. Briquet has shown that it, at least occasionally, exerts an obvious power in controlling them. Its *anticongestive* agency, (I can contrive no better phrase) will find numerous advocates all over our south western country, where it is regarded as the principal or indeed almost the only remedy to be trusted to, in those attacks of fever specially characterized as congestive. If the enlargement of the spleen, whose relations to intermittent fever are by Piorry regarded as so essential, be of congestive form, they are asserted by him, whether transient or permanent, whether hypersplenohemia

or hypersplenotrophia, to be under the most immediate and instantaneous subjection to quinine; a fact which may, if confirmed, be looked on as conclusive of this assumption.

I have thought that it may be of some advantage to collect together the several statements which in the course of my reading, I have met with, of its application to numerous and varying forms of disease. In the anxious search after remedies in difficult cases; in the doubtful hope mingled with eager wishes to preserve life and relieve suffering, which agitate always our most responsible profession, such a catalogue may be referred to as, at least, suggestive.

Of course it is proper to commence with *Intermittent Fever.* Its employment here is now universal, and the only mistake likely to be made by the merest tyro, is in the mode of administration of our very trustworthy remedy. In all ordinary cases, I prefer moderate, or what would perhaps be called, small doses, to large ones; a grain or two every second or third hour during the interval of our common tertians or quartans, will scarcely ever fail us; in the quotidian I would give four or five grains immediately on the subsidence of an exacerbation, and afterwards follow the same course as above laid down. In threatening attacks, pernicious, malignant congestive, the quantity should unhesitatingly be increased—the state of the nervous system already described as quininism, should be brought on as early as possible after the first paroxysm, and ought not to be permitted to subside entirely until two periods of invasion have passed by.

Remittent Fever. It used to be an acknowledged rule that we should wait for an entire intermission; but even the cautious practitioners of the old school made occasional exceptions—Lind, and Clark, and Irvine, employed cinchona in the best remissions they could obtain in persistent cases, after the first week or ten days. Fearne, of Huntsville, Ala., Tuck, of Memphis, Tenn., and Stratton, of Canada, may be

quoted in favor of the beneficial administration of free and impressive doses of quinine in the management of remittent Fever.

Continued Fever, in all its forms, has been treated with cinchona and quinine; typhus and typhoid fevers were thus met by Huxham, Lieutaud, and many others of the old regime, who were forced to use the bark in substance, infusion or tincture. Recently, Waton and Briquet in France, and in our own country, Mitchell, Montgomery, and numerous fellow practitioners make use of the sulphate of quinine in all fevers known by these names.

Yellow Fever. The testimony on this subject is discrepant and deserves to be succinctly recounted. The ingenious and able editor of the New Orleans Journal, Prof. Harrison, speaks in strong terms of the success of Drs. Hunt, Mackie, and himself, in the yellow fever of 1839 in that city. The method to which he ascribes the favorable results "consisted in promptly giving the sulphate of quinine as soon as possible after the attack. The dose varied from 20 to 80 grains given in a little cold water. If the stomach was very irritable it was given by injection. If the first dose failed to produce an apyrexia in eight or ten hours, a second dose was given. The earlier it was given the better; but it should not be given after the second day." Thus late it always does injury. In this statement he differs from preceding authorities, by whom it is recommended either to wait for a natural apyrexia or remission, or to make one artificially by vehement V. S. or other modes of depletion. "I shall never forget my surprise," he says, "the first time I witnessed its effects. The fever in most cases was cut short as if by enchantment." From Dr. Watt, of Georgetown, Demerara, we learn that "the practitioners of that country give with great success in their yellow fever, 20 to 24 grains of sulphate of quinine with calomel every four hours until the symptoms abate." Beugnot, in an instructive essay in the first No. of the New Orleans Journal, has collected a host of authorities in that

city and the West Indies, who give strong testimony in favor cinchona and quinine. To these we must add the names of Bally and Parisot, who saw sulphate of quinine highly serviceable in the yellow fever of Barcelona, in Spain, in 1820.

On the other hand, Dr. Lewis, of Mobile, reports an entire failure with it in all the various forms of yellow fever he met with, intermittent, remittent, and continued; and Dr. Stone speaks still more unfavorably of it. I have used several of the preparations of cinchona, with occasional benefit, in the yellow fever of Charleston, from twenty to thirty years since, as in the epidemics of 1817, 1819, and 1824; but its good effect was by no means constant, nor did the majority of cases admit of its employment at all. I was led to try it by the favorable reports of some of the West India physicians. In more recent epidemics I have experimented with the sulphate of quinine, but cautiously and in small doses. Not finding any good effect from it, I have abandoned it, though I still exhibit, in certain cases, the infusion of cinchona with the tincture, as "stomachic, roborant" and astringent.

Continued Malarious Fever: if there be such a disease, which I doubt, believing it to be an obscure remittent, complicated with serious congestions and inflammations, it is surely manageable with sulphate of quinine. Maillot describes such a fever in Bonao on the African coast, and Stratton at Penetarquishene on Lake Huron. Cordier gives us two cases of marsh fever (fievers marécagenses) occurring in the South of France, in which there was "complete impossibility of finding the slightest remission." They were promptly cured by sulphate of quinine.

Congestive Fever. I use this phrase in compliance with *custom* merely. In the condition which it implies, a condition common, doubtless, to all types of fever, American physicians almost universally regard sulphate of quinine as among the best remedies, if not the only one to be trusted to; and administer it in doses indefinitely large, from ℈i to ʒi or ʒii repeated pro re nata.

Puerperal Fever. Biagini, of Pistoria, recites the history of a case which his French translator, in the Journal des Connaissances, terms a "fievre perniscieuse, delirante, amaurotique," a malignant puerperal fever, complicated with delirium and blindness, "cured completely" by the use of the citrate of quinine.

Hectic Fever. I have seen the paroxysms of this fever of irritation, in a few instances, suspended by timely doses of sulphate of quinine, in moderate amount. In the great majority of the attempts I have made with it, however, it failed.

Traumatic Fever. Guersant reports its favorable influence in a patient for whom, in the Hôpital des Enfans at Paris, he had amputated both lower extremities.

Erysipelas is the only only one of the exanthemata admitting of introduction here. Its typhoid or contagious form as occurring in hospitals, has long been familiarly treated with free doses of bark, especially in London; and for my own part, I still prefer the infusion and tincture of cinchona to the quinine, which has superseded it among American physicians for the most part, in such examples as seem to allow of or indicate a resort to either.

Passing on from the pyrectic affections to the phlegmasiæ and others, *arachnitis* is affirmed to have been repeatedly treated by Bally with sulphate of quinine in the enormous dose of sixty-two grains.

Encephalitis is managed in the same way, though with smaller doses of our remedy by Delens.

Epilepsy was thus cured by Taroni in a young woman. The attack was caused by fright and manifested a marked periodicity. He began the treatment with 20 grains daily, gradually increased to 40 grains a day for six days, and then gradually diminished.

Hemiplegia. A very curious case of intermittent hemiplegia is told in the Journal des Connaissances for November 1st, 1845, which was treated skilfully and successfully by

Freschi, of Turin, with free doses of sulphate of quinine, after the failure of V. S., vesicatories, &c.

Chorea. Friberti reports a severe case, of two month's duration, caused by fright, in a child æt. 11 years, in which after a laxative, he gave a scruple of sulphate of quinine in twenty-four hours, in six potions. The course began on the 29th April; the child was well on the 12th May, and dismissed on the 15th.

Hemicrania and Orbital intermittent pains. Under this phrase Rodrique, of Montpellier, describes a very painful affection, often regarded as malarious, but, as I should judge, as often truly catarrhal, known by the names of 'brow-ague,' 'sun-headache,' &c. It is an intermittent inflammation of the mucous membrane of the frontal sinus and antrum. It is always regularly periodical; usually comes on in the forenoon and continues until near sunset. In Rodrique's case it came on every day at 3 o'clock, and lasted with severe suffering for four hours. He succeeded at last with free doses of sulphate of quinine, after failure with all other modes of treatment. I once met with similar success, but have seen the same treatment useless and inapplicable.

Pneumonia. In the pulmonary affections of malarious districts, cinchona in infusion, especially as combined with serpentaria and other diaphoretics, has been long considered a useful remedy. Drs. Boling, of Mobile, and Flint, of Buffalo, have presented strongly the claims of sulphate of quinine, as well adapted here; and McCormick says definitively that he has "seen it allay febrile action in pneumonia."

Intermittent Dyspnœa of great intensity, a paroxysmal strangulation (espice d'étranglement) which he oddly enough considers a "fiévre larvée," a masked or undeveloped fever, complicating hooping cough, is described by Morand. It attacked the patient, a child æt. 7 years, with many frightful symptoms of varying interest, at the same hour for four successive days, enduring each time a quarter of an hour. A dose of 60 centigrammes of sulphate of quinine put an

immediate end to the paroxysm, and another completed the cure.

Rheumatism has been already mentioned. Legroux administers the sulphate of quinine 'in small and divided doses.' Briquet in large amount. In acute rheumatism, the latter graduates the dose according to the intensity of the symptoms, "increasing the quantity in correspondence with the violence of the fever," exhibiting from 40 to 62 grains in the twenty-four hours. In chronic rheumatism, the doses were less; not exceeding 30 grains per diem, as a general rule. The first favorable effect, he says, is sleep; next, there is diminution of pain and swelling in the parts affected. He reports eight cases among twenty, cured in the short space of forty-eight hours.

Of *Splenic Enlargement*, hypersplenohæmia, or mere engorgement of vessels, and hypersplenotrophy, or ague-cake as it is termed with us, enough, perhaps, has been said.—Piorry, who maintains the universal dependence of intermittents upon splenic derangement, asserts the magical power of sulphate of quinine over all enlargements of this viscus; and even affirms that it is capable of producing within a few seconds, its total absorption when in a healthy state. These statments are incredible. We can scarcely doubt the influence of quinine and certain other agents to be hereafter mentioned, in causing the immediate subsidence of the spleen when the seat of simple sanguineous congestion; but is impossible that within 40 seconds, or even as many hours, absorption of solid tissue, whether the hypertrophy be analogous or heterologous, should take place, under the impression of any medicine whatever.

The unquestioned fact of the rapid disappearance of some of these splenic enlargements suggests the reasonableness of a trial of the sulphate of quinine in similar disorders of other vascular parts. *Orchitis*, for example, as we find it stated in the Journal des Connaissances, was treated by this remedy, successfully, after the failure of depletion, emollients, &c., in two cases under the care of Poura.

In the British and Foreign Review for June, 1845, there is a case of *constipation*, which, after obstinately lasting six days, was relieved by the sulphate of quinine in doses of five grains, repeated every half hour.

I conclude here this catalogue which might be almost indefinitely augmented from the periodicals on both sides of the Atlantic. If it convey a single hint, which shall aid an embarrassed practitioner in any difficult emergency, or contribute to the relief of a single fellow creature from danger or suffering, my purpose in its preparation will be fully attained.

We scarcely employ quina, in this country, in any other form than its combination with sulphuric acid; indeed its other salts are not easily procured. The *citrate* and the *lactate* are spoken of as milder and less offensive than the sulphate, while they retain all the requisite efficiency. The *valerianate*, which we owe to Prince Lucien Bonaparte, is highly lauded as combining very valuable antispasmodic and anti-irritative properties, with the rich virtues of the familiar article, but is scarcely accessible in ordinary practice, on account of its expensiveness. Devary assures us that it is equal to the sulphate in its antiperiodic effects, and superior in its nervo-sthenic properties. He reports many cases, some of which were severe and complicated intermittents, which the sulphate of quinine had failed to relieve, and which yielded when the valerianate was employed; he gave one grain at a dose and used per day from 1½ to 6 grains.—Meirieu recommends as preferable to the simple sulphate of of quinine a mixture containing that salt in solution and charged with an excess of carbonic acid gas; by which, he says, the quina is rendered more soluble, acts with greater energy and in a smaller dose.

Kingdon has prepared an *iodide* and *bin-iodide of quina*, with the view of "combining the tonic qualities of the one, with the excitement of the absorbents produced by the other of these powerful agents." He has exhibited the bin-iodide

in several cases of scrofulous enlargement of the glands with great benefit.

The *ferro-cyanate* of quinine is very favorably mentioned by Dr. Fenner in the November, 1845, No. of the N. Orleans Journal, to which periodical I have made frequent reference as an abundant storehouse of useful facts and suggestions. He says, "it seems to exercise all the febrifuge and antiperiodic virtues" of the sulphate, without producing the disagreeable effects comprised under the phrase quininism, and that "it is much prescribed in cases where the head or stomach cannot bear the sulphate." An instructive case is detailed in which the ferro-cyanate was given in five grain doses every two or three hours, to a patient who refused to take the sulphate because it had made him perfectly deaf before. The condition of the subject was alarming; but the result was perfectly satisfactory; the head was not at all disordered and the paroxysm did not return.

Of all these combinations, however, that from which we would, a priori, expect most definite and certain advantage to be obtained, is the arsenite of quinine first found by Berzelius, as uniting two of our most impressive febrifuges. It is highly eulogized by Bertoloin, who confides in it almost exclusively, and has obtained with it successes equally astonishing by their rapidity and their permanence. He affirms that a single grain of this salt suffices to cut short the most obstinate relapses of intermittent fevers, and that its use not only cures the fever, but in the majority of cases dissipates all glandular enlargements. He thinks it prudent not to administer more than *one-twelfth* of a grain at a dose, although it has not proven injurious even in the amount of one-third of a grain.

Peréira and some others of the recent writers on Materia Medica warn us that the cinchona tree, being of native growth only over a very small territory, and capable of cultivation no where else, we are liable, in the process of even a short time, to have our supply of this most indispensable medicine limited most inconveniently, and even altogether

exhausted. Our worthy Surgeon General, Lawson, has accordingly with laudable and sagacious forethought directed the attention of American practitioners to the search for substitutes, which may take the place of quinine, if we are in any manner deprived of it, and has particularly suggested the salicine as worthy of careful and extensive trial. The best report that we have as yet on the subject, is that of Dr. Fenner, one of the editors of the New Orleans Journal, who gives the result of 20 cases of fever treated with salicine. Its great inferiority to quinine will not be denied by any one, but both from the very valuable details afforded us by Dr. F., and from a few observations I have myself had an opportunity of making, I am entirely satisfied that it possesses decided febrifuge properties.

Opium and many of the preparations of its constituent elements, ought to be considered as among our best aids to quinine, and also among our most promising substitutes for it. The *muriate of narcotine* eulogized by O'Shaughnessy is unequivocally an antiperiodic of very considerable power.

Dr. Corrigan gives us a case of ague in which sulphate of quinine had been administered "with the effect only of prolonging the intervals between the fits. A dose of *sulphuric ether*, ʒii, with tinct. opii gtt.xx, put an end to the attack. The spleen in five minutes diminished from 6 inches by 7½ inches to 4½ by 6¾; the skin becoming warm (it was in the cold stage) and the pulse fell from 120 to 96." Hence Dr. C. concludes—"1. That the spleen can suddenly alter its volume. 2. That other agents as well quinine can produce this sudden alteration and size; and 3. That the cure of the disease can be effected by other remedies." The meaning of this last proposition is evidently that sulphuric ether and opium are available substitutes for quinine, an assertion which we would gladly see confirmed by experience.

Piperine must not be omitted in this enumeration of our armory of febrifuges, in case of an unfortunate failure of the supply of quinine and cinchonine or cinchona. It is

an adjuvant of great value, not only when we are employing these latter, but combines well with any on the list of substitutes for it.

I should not have thought it necessary to refer in this connection to *arsenic*, so well known and familiar an alterative, preferred by some and by most considered only second to quinine, but that I wished to draw attention to some remarks published not long since, by M. Boudin, Med. en chef de l'Hôpital Militaire de Versailles. This gentleman whose experience seems very extensive, tells us that he has substituted arsenic altogether for quine, as far more certain in its effect and more worthy therefore of our confidence. He treats all his cases with it, and has met with uniform success; he affirms that the sulphate of quinine had previously been given to more than five hundred of his patients in vain.

In some of his views, I am disposed to agree with him, while others I look upon as erroneous. I prefer to commence the management of every case with the quinine, but, like him, I have thought the impressions made by it, however efficient and salutary, less permanent than those which arsenic produces on the system. I have had frequent occasion to witness the return of intermittents cured by quinine alone, after longer or shorter intervals; and this recurrence becomes very annoying to some patients. But I have never yet seen a relapse or return of the disease, unless after new and obvious exposure to its miasmatic sources, after the arsenical treatment had been fairly carried out.

Lastly, I must say a few words of *bebeerine*, the most promising by far of all the substitutes proposed for our invaluable remedy; and indeed if the reports already received, prove correct and are established by a prolonged and extended experience, one destined to become a formidable rival to it whenever we are permitted a choice. Its claims are well supported by Dr. M. Logan in the Edinburgh Medical and Surgical Journal. It is a vegetable alkali, obtained from a plant of the natural order *Lauraceæ*, genus *Nectandra*, called

N. Rodiei, in honor of Dr. Rodie, the discoverer of its medicinal powers. Like quinine it is prescribed in its combination with sulphuric acid, as a disulphate or a sulphate. It is sold at less than half the price of the disulphate of quinine, its dose being about 12 grains, in which quantity it does not disorder the head or produce any other unpleasant effects. One authority tells us that it acts occasionally as a laxative. Dr. Watt, of Demarara, thinks it, like arsenic, slower but more permanent in its influences than quinine, from whose accidental or toxical annoyances it is quite free. Dr. W. is subject to urticaria when he takes quinine and resorts to bebeerine preferably, as not exciting any such annoyance. In a case of symptomatic fever from abscess, the patient took with good effect sulphate of quinine in 10 grain doses, but he also was distressed with a consequent urticaria; substituting bebeerine in the same dose, he obtained the same benefit without the nettle rash. Dr. J. Hughes Bennett, of Edinburgh, a very respectable authority, declares that he has "no doubt that bebeerine possesses all the valuable properties of quinine in an equal if not a superior degree," Prof. Simpson, aware that Piorry accuses quinine of being apt to produce abortion or premature labor, tried the sulphate of bebeerine in the periodic neuralgia of pregnant women, with perfect success; he regards it as "antiperiodic and tonic, with far less stimulant and irritating effect, than we see produced by quinine.

As yet, I have been unable to procure any of this highly lauded medicine, nor do I know that any of it has hitherto been imported into our country. As soon as it can be obtained, I shall eagerly resort to it, and if not disappointed in my hopes of benefit from it, shall gladly add it to the brief list of remedies regarded with trust and confidence.

Charleston, April 11th, 1846.

ART. II.—*A Case of Double Consciousness, with Remarks by Professor Caldwell.* By B. F. BERKLEY, M.D., of Moorfield, Ohio, in a letter to Professor C.

JUNE 18TH, 1846.

Dear Sir:—

Knowing that you have paid much attention to the science of mental philosophy, I have taken the liberty to trouble you with an imperfect report of the most extraordinary case of mental disease, perhaps, ever recorded; at least so far as I am informed in the history of our profession.

Mrs. N. B., a citizen of this county, living about sixteen miles from Cadiz, the county seat, a married lady, aged 39 years, has been the subject of neuralgia of the face for about 17 years, otherwise a healthy woman. About five or six years ago she grew worse, (previously having attracted no particular attention) the disease assuming a strictly periodical type, returning every two weeks—at which times she suffered the most excruciating agony in the course of the fifth pair of nerves of the right side of the face. After suffering two or three hours in this way, she not unfrequently became sick at the stomach, and would vomit and purge. All these symptoms after a while subsiding, she would become entirely insensible to all external impressions. In this situation she would commence preaching in a loud and clear voice, and continue from two to three hours. She would then sink down as if she had fainted, and in fifteen or twenty minutes awake without the least knowledge of what had transpired.

She has had these periodical spells of preaching for five or six years every two weeks regularly, never having missed but two or three times. The novelty of the case has of course attracted a great many strangers from all parts of the country, and every body had something to say in regard to the matter—some alleging that it was all deception—some that the woman was divinely inspired—others, that she possessed as many devils as Mary Magdalene.

Hearing so many, and such contradictory statements, I determined to visit her myself, not believing much of what I had heard. Accordingly on last Sunday, the 15th inst., her regular day, I visited her. I determined to be there early in the morning (her preaching hour being at 11 o'clock, A.M.) to see her both before and after performance. I arrived at the house at 9 o'clock, and to my gratification found I was the first that had arrived; no person being present but myself and the family, I was introduced to Mrs. B—— by her husband in a private room. She was sitting in an arm chair, suffering all the agony of a severe attack of facial neuralgia of the right side, though somewhat different from most cases of that disease. There was no twitching of the muscles, great turgescence of the vessels of the face and neck; muscles of the neck very rigid; eyes very red; excessive intolerance of light, so much so, that she could scarcely bear to elevate the eyelids.

She says she feels an almost insupportable weight, like an incubus upon her head; there is an abundant secretion of saliva, which is altogether from the right side of the mouth. I talked with her for about an hour, or as long as she was capable of talking. I found her a very intelligent woman; she wished to know if there was nothing that would relieve her. I asked her if she had undergone any medical treatment. She said she had; that several eminent physicians had given her medicine. She had been cupped, her head shaved and blistered, ointment of veratria applied to the course of the nerve, and all the most noted antiperiodics, such as arsenic, the preparations of iron, &c., given in succession without the least benfit. She thought that under the tonic treatment she had got worse.

She continued to get worse and worse from the time I went into the room until about 11 o'clock, when her eyes closed and she became perfectly insensible to external impressions. In this situation she commenced talking.

She was placed in the sitting posture in a large room where a great number of strangers had collected. When

she first commenced talking she appeared to be choked with a frothy saliva—but she soon cleared her throat, and preached for two hours and ten minutes in a clear and distinct voice—sufficiently loud to be heard a hundred yards. She commences in the form of a prayer, but soon changes to preaching, quoting scripture very fluently and giving explanations. Sometimes she appears to wander in her mind, and not place her words properly, though this is seldom the case. Sometimes her appeals would be the most pathetic and eloquent, I ever heard. The first warning you have that she is about to conclude is the free spitting up of this frothy saliva. As soon as that appears she falters and falls over. She continues insensible for fifteen or twenty minutes, all the time spitting up this saliva, when she awakes by yawning like a person who had been asleep, and looks about with a vacant stare. She soon however regains her senses, and looks like another person, and knows nothing of what has transpired.

The most remarkable circumstance connected with this case is, that she can neither see, hear, nor feel, during all the time she is preaching. She is not disturbed by any noise that may be made, and if pricked with any sharp instrument, does not flinch, and her eyes are closed during the whole time.

It is the opinion of some of the physicians who have visited her that a limb might be amputated without her knowledge. After she recovers from this singular situation all the redness of the face and eyes disappears; she resumes her natural appearance and seems cheerful, and says her pain has vanished. I would remark that it is several hours before she can walk, as she seems to have no use of her limbs—but the next day she resumes her ordinary domestic duties with as much vigor as any of her neighbors, until the next paroxysm.

This may all be called deception or a religious fanataicism; but I think the history of the woman, and every circumstance connected with the case, seem to preclude such an idea. In the first place, it has been a well-marked case of

neuralgia for many years; she is not very loquacious, not so much so as most of her sex, never was an enthusiast on any subject; belongs to the Presbyterian church, and never was known to have a desire to preach, or talk in public on any subject. Taken all together it is one of the most extraordinary cases of disease of the nervous system that has ever occurred, and wholly inexplicable by me, and every one else that has seen her.

Her family is among the most respectable in the county; and I have conversed with men who have known the woman from a child, and none except a few uncharitable and ignorant persons, from whom she differs in doctrine, have ever accused her of trying to deceive the community.

Remarks.—The foregoing is one of those morbid affections to which the term MYSTERIOUS is almost *uniformly* and with much affected *significancy* and *wisdom* attached, not only by the great *mystifying body* of laymen, clergymen, and pseudo-philosophers, but even by the medical profession itself. Yet, if by the term we mean to designate something "*above human comprehension*," (and such is its most correct interpretation) there is no more *mystery* connected with it, than there is with a paroxysm of fever and ague, an attack of peripneumonia, or even with a sound and comfortable sleep. We can, I mean, just as easily comprehend, and as intelligibly explain the *double consciousness* and *somniloquence* of Mrs. B. as we can either of the other three conditions of the human system to which I have referred. The reason is plain. As far as *true and immediate causation* is concerned, we are essentially ignorant of them all. And so are we indeed of every other vital phenomenon—more especially if it be seated in the nervous system. For, entirely ignorant as we are of the genuine action, both healthy and morbid, of the other tissues of the body, we are, if possible, seemingly still more so of the action of the nerves.

Until within the last fifty years, scarcely any one, except enthusiasts and imposters, pretended to any real knowledge

of the nervous system, beyond that of its mere existence and appearance—more particularly of its *central organ, the brain.* Dr. Gall, by his discovery of PHRENOLOGY, toward the close of the last century, first brought that organ (the *chef d'œuvre* of the Deity on earth) from the gloom of midnight to the glimmer of morning. And scarcely has our light in relation to it advanced as yet beyond that glimmering. As respects *practical purposes* this will not be denied, whatever may be said or thought in relation to theory.

The affection of Mrs. B., on which I am offering these remarks, belongs to the class of diseases, our knowledge of which is believed to have been most improved by the discovery of Dr. Gall. The principal maladies of that class are, insanity in its different forms, epilepsy, somnambulism, somniloqence, (of which Mrs. B.'s complaint is but a modification) St. Vitus's dance, hysteria, tetanus, hydrophobia, and a few other like affections—especially those denominated *mesmeric.*

I am aware that, in classing mesmeric somniloquence with that which is called *natural*, the complaint of Mrs. B., I come into collision with the sentiments of a distinguished writer, expressed in an article, sometime since delivered, as an address, and subsequently published by him, on that subject. But, when supported by facts, such collision cannot move me. And, were the present a suitable occasion for discussing the question, many indubitable facts might be adduced to show, that *natural* and *mesmeric*, somniloquence not only belong to the *same* CLASS of affections, but that they are veritably *modifications* of the *same* affection. Nor do I consider it at all certain that I shall receive from physicians a *general* or even an *extensive* concurrence in the opinion, that the complaint I am considering is very closely allied to insanity. Yet, to my mind, no position can be more clear—nor any opinion better founded and more satisfactory. But I must no longer dwell on this view of the subject, but proceed to one more practically useful.

The very respectable author of the foregoing article has

solicited my opinion in relation to the most effectual mode of treating Mrs. B.'s complaint.

Though this is a question both delicate and entangled—especially as the patient has been attended by several able physicians, and acted on by powerful remedies for periodical complaints—and, *more* especially inasmuch as the lady has never been visited by me. Still, however, as nothing administered has proved beneficial to her, a prescription shall be hazarded. And that prescription is, that, provided she be sufficiently susceptible of the influence, (as I think it highly probable she is) let Mrs. B. be thrown into a profound mesmeric sleep, about two hours before the time of the paroxysm's commencement, and allowed to remain in it at least *four or five hours.* By the "commencement of the paroxysm" I mean the onset of *the neuralgia*, which appears to be the *prelude* to the *attack of somniloquism.* If *the former* therefore be prevented, so will the *latter*—precisely as the prevention of the *chill* of an intermittent prevents the subsequent elements of the fit.

It *may* and probably *will* be necessary for Mrs. B. to remain in the mesmeric sleep more than five hours. She ought to be thrown into it at least two hours before the first symptoms of neuralgia appear, and continue in it until two hours after the time at which it turns to somniloquism. The mesmeriser moreover ought to be expert and powerful, and the sleep as deep and perfect as it can be made. This remedy may not *effect a cure* on the first, nor even perhaps on the second and third trials. If the sleep, however, can be produced, it will at first give relief, and by subsequent and careful repetitions ultimately *cure.* But, if negligently and imperfectly employed, it will, like other remedies, under like circumstances, be useless and perhaps hurtful.

Am I asked how mesmeric sleep is to prevent neuralgia and its sequelæ, in the case of Mrs. B.? I answer, by taking such thorough and stable possession of the whole nervous system, as to render it entirely insensible, and proof

against every other sort of impression. And this I know it does. Hence, during its continuance, teeth have been extracted, luxated and fractured bones reduced and set, tumors excised, and limbs amputated, without exciting in the patients a shade of sensation. Some of these operations, where there was no excitation of feeling I have myself witnessed. I was also a spectator of the following experiment performed on a lady in this city (*Louisville.*)

The poles of a very powerful electro-magnetic apparatus being placed in her hands, and the machine put in action, she could not tolerate the impression of the aura, for a single moment, but dropped the poles with a start and a slight scream. Being an uncommonly susceptible mesmerizee, she was then deeply mesmerised, and the poles again placed in her hands, and the machine much more highly excited than before. And she was as insensible to the aura as a marble statue. Nor could any person present, in his natural condition, bear the thrilling of it for an instant. I myself grasped the poles, and was compelled to drop them again, as suddenly as the lady had previously done.

But, for my belief in the efficacy of mesmerism as a remedy for periodical neuralgia I have yet other reasons, which most persons will deem still sounder and stronger than those I have rendered. In several slight cases and in one very severe one, I have witnessed its complete success. Nor, where the sleep can be rendered sufficiently deep, am I prepared to believe that it will ever fail.

ART. III.—*Observations on the Blood in Asthma, Epilepsy, Hydro-pericardium, and Bilious Fever.* By J. R. BUCK, M.D., of Louisville, Kentucky.

The physical changes in the blood as to color, consistence, coagulability, the formation of the cup, or the buffy coat, are inconstant,—occurring in diseases opposite in character, and of little or no diagnostic value. We are compelled, therefore, to seek in those intimate chemical changes in the blood, the nature of all diseases in which this fluid is either primarily or secondarily involved. Marshall Hall practises bloodletting as a diagnostic, as well as therapeutic measure; tolerance by the system of the loss of a large amount of blood indicating inflammation, the want of this tolerance, the absence of inflammation. But to practise this means of diagnosis, even if it could be relied upon, would require the abstraction of an amount of blood injurious to the patients in all affections not inflammatory, whereas in the process of analysing that fluid the results, even in the present state of our knowledge of its pathology, afford us far more certain information, and the quantity necessary to be taken is very small.

I have examined the blood in phthisis pulmonalis, pneumonia, scrofula, chronic rheumatism, hydro-pericardium, epilepsy, asthma, and bilious fever. Reports of the four last mentioned cases only will be given in the present communication. In some future number I may publish the result of the observations upon the blood in phthisis, showing a wide difference in its chemical constitution in the different stages of the disease. The method which I pursued in these analyses was similar to that of Andral, Gavarret, and Zimmerman, except in the process of obtaining the blood corpuscles which, I believe, is more accurate, at the same time that it is much less complicated, than the process pursued by these experimenters.

Case I.—R. S., æt. 76 years, a farmer, born and raised on the Eastern shore of Maryland, of temperate habits, and with no family predisposition to disease of any kind, he enjoyed uninterrupted health until quite an old man. At 71 years of age he had some difficulty in discharging his urine; this increased for several months when retention became complete, and the catheter had to be used; since which time, nearly five years, the bladder has never been evacuated without the use of this instrument. At 73 he was occasionally troubled with palpitation, dyspnœa, and slight cough; the dyspnœa increased for about a year, the attacks becoming more frequent, and more severe, while the palpitation lessened; the feet and ancles, in the meantime, beginning to swell. In January, 1843, I first saw him; the dyspnœa was then constant, and, upon taking the least exercise, very intense; attended with a sensation of tightness across the chest; countenance expressive of great anxiety; cough loose, with mucous expectoration; pulse irregular, full; impulse of the heart scarcely perceptible, sounds feeble but natural in character; great prominence in the precordial region.

Diagnosis.—Hydro-pericardium. Prescription—four cut cups to the region of the heart; cream of tartar and jalap. This treatment caused marked improvement in a few days. Calomel, squills, and digitalis were then given, and subsequently syrup of the iodide of iron. Under this treatment the patient seemed to recover perfectly in a few months; has had since, at intervals of several months, attacks of dyspnœa, with violent palpitation. Bleeding from the arm, and leeching have been practised, but not with the same good effects which followed the application of cups.

On the 29th of June, I was called to see him; he had been suffering for several days with dyspnœa, and a sensation of stricture as though a cord was drawn tightly around the chest. Pulse was full and strong, but could be compressed; dry cough; slight cephalalgia. Took from the arm about nine ounces of blood, which yielded upon analysis:—

Water - - - - - - -	798
Solid residue - - - - - -	202
Fibrin - - - - - - -	2·3
Albumen - - - - - - -	65·4
Blood corpuscles, - - - -	122
Salts and extractive matter - - -	12·6

It will be seen from this analysis, that the fibrin, (an increase of which is said by Andral always to indicate inflammatory action,) is not at all above the healthy standard; it is indeed rather below the amount, assumed by some writers as the average, in the healthy adult. The albumen and blood corpuscles are also rather below the healthy standard. The relative amount of water to the solid matters varies but little from the healthy average.

What practical deductions are we to draw from this observation? That the blood was healthy, all the constituents being within the range of healthy blood; that, whatever may have been the nature of this disease in the first stage, there existed no inflammatory action at the time the observation was made; but the fullness of the pulse, pain of the head, &c., depended upon some other morbid condition. The day after making this analysis I prescribed the counter-irritating lotion of Granville with very decided benefit; and upon a generous diet, with gentle tonics, the patient has continued to improve.

Case II.—A merchant, æt. 27 years, of healthy parentage, in the summer of 1845 had a slight attack of asthma, which passed off in a few days without treatment. In January, 1846, he had a severe attack of tonsillitis confining him to his bed eight days, from which he recovered entirely in a short time after getting up. In the latter part of June he was taken in the night with a severe attack of asthma. I saw him next morning when his condition was as follows: Respiration exceedingly laborious, with a feeling of oppression as

though a heavy weight was confined upon the chest; cough almost constant, dry and not deep; pulse 92, full and of moderate firmness; percussion elicited no unnatural sound; respiratory sounds feeble, with an occasional loud, intensely rough inspiration. Bled from arm to the extent of twelve ounces, when the patient became quite faint; the dyspnœa was somewhat relieved by the bloodletting; five hours after an emetic of tartrate of antimony and ipecacuan was administered, which relieved the paroxysm. Since that time he has had one very slight attack, for which he was not subjected to treatment.

ANALYSIS OF THE BLOOD.

Temperature - - - - -	98°
Specific gravity - - - -	1032
Fibrin - - - - - -	1·3
Albumen - - - - - -	66·8
Blood corpuscles - - - -	77·1
Salts and extractive matter - -	10
Water - - - - - -	843
Solid residue, - - - - -	157

The amount of solids to the water is much less in this case than in the first, and is below the healthy standard. 211 may be assumed as the average of solid residue in one thousand parts of healthy blood; 190 and 270 being the extremes. The fibrin is diminished to about one-half the normal proportion. The blood corpuscles are diminished in the same ratio as the fibrin. The albumen and salts are within the healthy range. There was nothing unusual in the blood as it ran from the arm; it was neither very pale, nor very dark; it coagulated readily and formed a buffy coat, but was not cupped.

By comparing this analysis with that of the blood in inflammatory diseases, a directly opposite condition will be found in the quantity of fibrin. In a case of pneumonia in-

volving extensively both lungs, as was proved by a post-mortem examination, the fibrin had increased to 6·5 in the thousand parts of blood.

Case III.—This was a case of congenital epilepsy, in a bright mulatto, æt. 25 years. This patient has a dull, heavy look, and a whining voice, but seems otherwise to be perfectly healthy; he was raised on a farm in Arkansas and always accustomed to lead an active life. The fits occur about once a month, but at no particular phasis of the moon, and have varied in this respect but little since the patient can recollect. He does not know that the disease was referred by his mother to any particular cause; is not aware of any family predisposition to disease of any kind. At the time the blood was taken for analysis he seemed to be in good health; his appetite was good, bowels regular, pulse and respiration natural. The following was the character of the blood:

Temperature - - - - -	96°
Specific gravity - - - -	1031
Water - - - - - -	805
Solid residue - - - - -	195
Fibrin - - - - - -	2
Blood corpuscles - - - -	129·8
Salts and extractive matter - -	10·1
Albumen - - - - -	55

The blood in this case cannot be regarded as in a pathological condition. The albumen is rather below the average, but is within the healthy range.

All three of these cases come under the head of the neuroses; for although in case first inflammation doubtless existed, in the earlier stages of the disease, it had been subdued many months before the blood was examined; a strictly nervous condition existing at the time. I have called it hydro-pericardium because this was the original disease, and

probably the exciting cause of the nervous affection. There was no increase in the constituents of the blood in either of these cases above the healthy range; in one, a very marked decrease in the two most important elements, the fibrin and blood corpuscles.

Case IV.—The subject of the next case was æt. 20 years; generally healthy; joined the Kentucky cavalry about the 1st of June, and encamped in a flat and rather low situation, badly watered; was here exposed to much rain and intensely hot weather, a greater portion of the time without tents; his food being pickled pork and bean soup.

On the 28th of June he was taken with a severe chill followed by fever; next day the chill returned. I saw him on the 4th of July; he had had no chill since the 29th of the month before, but constant fever, with slight remissions; had taken Cooke's pills, blue pills, quinine, and brandy toddy; was then (afternoon of the 4th) lying in a half stupid condition; upon being aroused would talk hurriedly, but was rational. His breathing was laborious, with an uneasy sensation in the chest; respiratory sounds more intense than natural; pulse 91, full and compressible; very considerable deafness; other senses perfect. Tongue covered in the centre with a whitish fur; very slight tenderness upon pressure in the epigastric, and right and left hypochondric regions; skin inclined to be hot. Has had two discharges from his bowels during the morning, which were thin and light colored.—Blood to the amount of twelve ounces was taken from the arm, followed next day by twelve leeches to the anterior portion of the chest. The breathing was somewhat improved by the depletion. Prescribed nitrous powders every two hours until perspiration was produced; next day quinine and opium, 20 grains of the former, to 1 grain of the latter were given at a single dose, and repeated every morning for three days, when the fever began to yield. Three days subsequent to discontinuing the quinine and opium profuse watery discharges from the bowels came on, which had to be re-

strained by opium, acetate of lead, and a large blister over the abdomen.

July 12. Patient convalescent. I subjoin a partial analysis of the blood in this case, its completion having been defeated by the mistake of a medical friend and assistant.

Temperature - - - -	100°
Specific gravity - - - -	1028
Fibrin, - - - - - -	.5

It is much to be regretted that this analysis was not perfected. The temperature was higher, by several degrees, than I have found it in chronic pneumonia and chronic rheumatism, in which the fibrin was nearly double the healthy standard, and yet in this specimen the fibrin is very greatly diminished.

July 27, 1846.

ART. IV.—*Notes on Medical Matters and Medical Men in London.* By DAVID W. YANDELL, M.D., of Louisville, Ky.

Mr. Walsh, author of a recent and successful work on *Cancer*, who is now lecturing on *Pathology* at the University College, is one of the best lecturers to whom I have yet listened in London. He is somewhat too rapid, and not sufficiently distinct, but he has life and animation which make up for other defects, keeping one awake while he is lecturing. Dr. Quain, who has distinguished himself by his anatomical works, as a lecturer is above the common run of professors, but neither he, Liston, Murphy, Thompson, nor Williams, of the University, nor Stanley, of St. Bartholomew's would be fancied by the majority of American medical students. Liston is a poor speaker; Cooper is but little better; Graham is considered excessively dull, and Thompson, now delivering a course of lectures on medical jurisprudence, certainly is so.

From all that I have heard, I am satisfied that, in manner, the medical teachers in America are superior to the English.

I saw, some days since, the great "*grinder*," Powers. He is a little round-faced, spectacled man, with an amiable, though not intellectual expression of countence, who, with a strange certainty, prepares candidates for a successful examination before the Apothecaries' Hall. He has now a class of one hundred and twenty, some of whom are taking first lessons; others are more advanced, while a few are being "rubbed up" for the final ordeal to which they expect soon to submit. I was told by a gentleman who passed the Hall not many months ago, that Powers asked him in the morning questions which were propounded to him by the board of examiners in the evening. Whether this was accidental or not he did not express an opinion; I have no doubt it was. The usual fee of the "grinder" is twenty-five dollars, and I believe is never less than this. Some years ago there was another Powers, also a popular "grinder," whose annual income is said to have been not less than £2,000, upon which he amassed such a fortune that he has been able to retire from business.

On the 9th of June I saw Mr. Liston perform several operations, one of which was tying the brachial artery for *false aneurism* of the hand. This is the case of which I made mention in my last letter, as being under treatment, by pressure, in the University College hospital. A young man, while shooting on "good Friday," had the misfortune to burst his gun, which tore off three of the fingers of his left hand, and inflicted an extensive and deep wound on the hand. While the wound was under treatment pulsation was observed in a small, filbert-like tumor situated near the centre of the palm. Mr. Liston advised pressure to the brachial artery, which was applied with very evident benefit, for a season, but after a time the pulsation in the tumor returned, and the patient becoming dissatisfied with the tardy process of cure insisted upon an operation, which Mr. Liston executed with his characteristic neatness and success.

Mr. Murphy I have mentioned as professor of midwifery in the London University, whose writings and practice have placed him in the first rank of English obstetricians. His lectures are full of instruction. I was much interested in one which he delivered a few days since on the causes of *tedious and difficult labor.* He does not regard *hydrocephalus* as so serious an obstacle to labor as it is esteemed to be by many accoucheurs. In the first place it does not follow, he maintains, that the cranium of the child with hydrocephalus is so distended with fluid that compression of the bones cannot be effected; for in many cases where the head was greatly increased in size he has found the bones movable and easily compressed. He cited in proof of his position the six cases of hydrocephalic children reported by Collins, of which only a single one caused a difficult labor. Dr. Robert Lee, however, attended five cases of a similar description in which all gave rise to tedious and difficult labors. Professor Murphy clears up this contrariety in men equally entitled to belief, by saying that Collins saw his cases in a hospital, where, having the management of them from the earliest stage of labor, he was prepared to meet and ward off any untoward symptoms that arose, while Dr. Lee saw his patients after they had been in the hands of midwives who probably did more harm than good, and only called him in to relieve them of their difficulties. If trouble does arise from this cause, it is when the head is at the brim of the pelvis, where various accidents may detain it; but when the pelvic cavity is once fairly attained delivery will take place. Should the head not clear the brim it is your duty to perforate it; the extraordinary size of the fontanels and the peculiar feel of the head rendering the diagnosis easy.

Prof. Murphy judges of the health of a child by the way in which ossification goes on, the age at which dentition begins, and the firmness of the osseous system. He has observed, that one of the obstacles to labor---increased ossification of the bones of the pelvis—is not met with in the upper classes of society, nor among the lower, in cities, but is found in a

rustic population, the females of which possess a masculine vigor of constitution, and in whom there is an abundant deposit of bony matter. He has remarked that the opposite cause to this—deficiency of ossific development—is met with in the poor of cities, among females of delicate constitutions, whose systems have never deposited bony materials in a normal quantity.

Prof. M. has been in the habit, for several years, of suggesting in his lectures an operation which has been three times lately performed by Dubois, and is henceforth to rank as one of the legitimate operations in surgery. In cases of contraction of the cervix uteri to an extent rendering labor difficult and dangerous, he proposes that incision into the neck should be practised. For this purpose the knife was used by Dubois, in some of his cases; but in others he deems the scissors preferable. Professor Murphy would be governed in the choice of the instrument by the nature of the case; where the cervix is far back he would use the scissors to relieve the posterior lip, but if it were forward and readily reached, he would resort to the knife. The knife used is the bistoury employed in removing the amygdalæ. The index finger of the left hand is to be introduced into the vagina, placing the palmar surface upon the spot where the incision is to be made; the bistoury is next carried along in contact with the finger until its point, passing within the cervix, comes in contact with the end of the finger. By means of a semicircular motion the cutting edge of the bistoury is then directed perpendicularly towards the free edge of the os tincæ; if this be tense the incision will be most easily effected by a sawing motion of the instrument. Prof. M. advises that the incision be made small, and if one is not found sufficient would make others. If the incision is to be made to the right, the right hand must be used instead of the left. The dilatation is generally sufficient in the course of a quarter of an hour after the operation to use the forceps, if it be desirable to terminate the labor by instruments.

The counter-indications to this operation are, thickening of the cervix, and attachment of the placenta near this part of the uterus. If the cervix has not become thin, the operation by inducing hemorrhage, or causing laceration from the extent of the incision, may terminate fatally instead of proving an advantage.

In his clinical lecture, some days since, Dr. Quain insisted that there is no such thing as purely spasmodic stricture of the urethra. In cases of stricture, after using fomentations to the lower part of the abdomen and perineum, a warm bath, tartar emetic, a saline purgative and opium, he recommends the introduction of a *soft* catheter, instead of the one commonly employed. He is in the habit of using an instrument of this description both in hospitals and his private practice, and he prefers a large catheter, which he has sometimes been successful in introducing after surgeons had failed to pass a small instrument. He can give no directions as to the manner of introducing the catheter, dexterity in this, as in nearly all the operations in surgery, depending upon practice. He advises students to carry a catheter in their pockets, and to take every opportunity to introduce it into the dead subject. Hold the instrument loosely, are his directions, and rather suffer it to pass by its own gravity than use any force to carry it forward. He spoke of two cases of retention of urine, one occurring in a young man in consequence of stricture; the other in the person of a man eighty years of age, produced by enlarged prostate, which, after existing for sometime, brought on paralysis of the bladder. In the young man the bladder could be felt above the pubis, round and well defined; in the man advanced in life this roundness was absent, and the outlines of the distended organ were not well defined. The urine in paralysis of the bladder is muddy, and, under the microscope, purulent. He injects the bladder in such cases with warm water to wash it out, and gradually reduces the temperature of the water until it is cold, which acts favorably in restoring the contractility of that viscus.

Erysipelas is at present prevailing in the University College hospital, where Dr. Quain lectures, but not to a serious extent; it had supervened upon the amputation of a great toe, and had followed a wound of the face. At certain seasons of the year, owing to the constitution of the atmosphere or some other cause, it attains an epidemic prevalence, seizing upon every wounded surface, and following the slightest operations. Dr. Quain has not much confidence in local applications in this affection; it is a constitutional disease and local remedies cannot reach it. When it follows upon wounds, he thinks it well enough to apply fomentations, which answer the good purpose of allaying pain; but as to all the other topical means, he has tried them without much benefit, and believes that *aqua fontana* is about as efficacious as *lotio plumbi*, or indeed anything else. In hospital practice he has abstained from depletory measures, and is in the habit of giving stimulants, the alcoholic drinks to which the patients are accustomed being preferable to wine, which hospital patients seldom or never use.

To-day I saw Mr. Morgan, of Guy's hospital, amputate the fore-arm for diseased carpus. He is a good operator, rather too slow, I should say, and not by any means striking. Guy's hospital was built by Thomas Guy, who left an immense property for its maintenance and support. Being a private institution, that is, not supported by private contributions or by government patronage, it publishes no report of the number of patients annually treated in it, and other statistics of the kind, which you see about the steward's office in the other hospitals. The number of beds averages five hundred, the wards being capable of containing more. Bransby Cooper, Key, and Morgan are the surgeons; Addison, Babington, and Barlow are the physicians, and Oldham and Lever the obstetricians. The school in connection with this hospital I should judge, from the manner in which the students are instructed in going round the wards with the physicians and surgeons, is one of the best in London. Powers, the grinder, I am informed, says "his best men are from Guy's."

The *régime* is different from that of the medical department of the London University; students and teachers are not at the same immeasurable distance from each other; more is said in the wards of the hospitals; more questions are asked by the pupils, and altogether more instruction given and received. There is a good class now in attendance at this school. Students attend four winter courses, and about eighty entries are made, yearly, which would give a class of two hundred and forty or fifty. Some years ago, when only those who had studied in London were eligible to the degree in the College of Physicians and Surgeons, the classes of this and all the other metropolitan schools were larger than at present, students from the provincial schools being now allowed to become candidates.

The museum at Guy's numbers nearly ten thousand specimens, eight thousand of which pertain to physiology and pathology, and the remainder to comparative anatomy.—There are also in the museum three thousand drawings illustrative of the different parts of the human system, besides about seven hundred diagrams. An artist is kept constantly employed in this department, at a salary of $2000 a year, and some of his work is highly creditable. The various forms of cutaneous disease he has represented so faithfully that students are afforded means of recognising and distinguishing between them, such as they will seldom meet with elsewhere. I saw several young men in the museum studying anatomy from the views in wax, which were spread out in glass cases; and a capital mode of study it is too, second only to dissection of the dead body, and, in this hot weather, far preferable to that. You see just in front of you, as you enter this apartment, "Silence is indispensable in a place devoted to study," in large letters. Were I a student at Guy's, I should be tempted to pass much of my time learning anatomy in this quiet, comfortable room.

St. Bartholomew's hospital is one of the largest and wealthiest of all the London charities. In common with all similar institutions here, it has an operating theatre, an anatomi-

cal museum, and a library attached to it. The museum contains three thousand specimens; the library has four thousand standard works; the number of its beds is five hundred and thirty, and in 1845 the number of its patients was forty-two thousand, of which five thousand five hundred were "in patients," and the remainder "out patients and casualties." Mr. Lawrence, who is surgeon extraordinary to the Queen is principal surgeon to Bartholomew's. As a writer of great ability Mr. Lawrence is well known in America, and at home he is esteemed one of the best educated and most scientific men in England. He has a fine intellectual face, and his manners are peculiarly bland, cordial and agreeable. Dr. Rigby is also connected with this hospital.

University College hospital is not on so large a scale as either Guy's or St. Bartholomew's. It is one of the hospitals supported by voluntary contributions, and was erected, and is sustained principally for the benefit of the medical college, which is situated immediately opposite to it. Notwithstanding its comparatively small size, it is an institution at which much is to be learned. The number of its beds is about one hundred and fifty, and an addition to it which will soon be completed will make room for fifty more. The number of "in patients" last year was thirteen hundred and seventy-nine; of "out patients" six thousand eight hundred and forty-six; of lying-in women attended at their own residences four hundred and eighteen; of casualties eight thousand three hundred and seventy-nine, making, in all, seventeen thousand and forty. Samuel Cooper, Liston, Quain, Morton, Taylor, Williams, and Murphy are connected with this hospital.

While noticing the public institutions in London connected with our profession I must say something of one of the most magnificent of these, the Hunterian Museum.

John Hunter died on the 16th of October, 1793, aged 65 years. In his will he directed his museum to be offered to the British Government on such terms as appeared reasonable, and in the event of refusal by the government, then to

be sold, in one lot, to a foreign State, or such purchaser as might offer. About 1799 Parliament appropriated the sum of fifteen thousand pounds for the purchase of the museum. An offer of the collection was first made by the government to the College of Physicians, but as the College was not wealthy it declined to receive it, and its example was followed by the Royal Society and the British Museum. Finally, it was tendered to and accepted by the College of Surgeons, which has gone on in the great work of which the museum of Hunter was the basis, until it has now a collection unequalled in the world. Mr. Lawrence speaking of the museum says, "so imperfectly was this creation of genius appreciated at that time, that the offer to the government was received very coldly, and six years elapsed before it was finally accepted. When it was mentioned to Mr. Pitt, then Prime Minister, he said, 'What; buy preparations? I have not money to buy gunpowder.' ".

The main terms and conditions of the donation were briefly these:—1st. The collection shall be open four hours in the forenoon of two days every week for the inspection and study of the fellows of the College of Physicians, the members of the Company of Surgeons, and persons properly introduced by them; a catalogue of the preparations and an officer qualified to explain it being at such times always in the room. 2d. That one course of lectures, not less than twenty-four in number, on comparative anatomy and other subjects, illustrated by specimens in the museum, shall be given every year by some member of the Company. 3d. That the preparations shall be kept in as good a state of preservation as possible at the expense of the corporation. The museum is open to the fellows and members of the college and such individuals as they may introduce; to members of all the learned and scientific bodies in the United Kingdom; to students of medicine, and to learned and scientific foreigners, members of parliament, peers, &c.

In 1806 and subsequently parliament appropriated £27,-

500, and the College of Surgeons about an equal sum for the erection of an edifice to contain and exhibit the Hunterian collection. This was completed in 1813. The industry of the members of the College was such, that in 1835 the building had become too small to contain the additions which had been made to the collection and the rapidly increasing library, and the College came forward and subscribed £40,000 for the erection of the present immense edifice in which is to be seen the Hunterian and collegiate collections. The College up to this time has expended upon the museum, exclusive of incidental expenses, upwards of £70,000; and the annual charge for its support falls but little short of £3,000.

The Hunterian collection contained, in all, ten thousand five hundred and sixty-three specimens. Of these 963 pertained to osteology, 1345 to natural history, 1215 were fossils, 617 dry preparations, and 3745 preparations in spirits; constituting the *physiological* department. The *pathological* department contained of preparations in spirits 1084 specimens, dry preparations 625, monsters and congenital malformations 218, calculi and concretions 536, microscopic preparations of normal and abnormal structures 217. The members of the College have added 12,347 specimens to the museum; of which, in the physiological department, 2119 are osteological, 240 are dry preparations, 1998 are in spirits, 427 relate to natural history, and 1200 are fossils; and, in the pathological department, the preparations in spirits are 2142, the dry preparations 1365, the monsters and congenital malformations 187, calculi and concretions 884, and the microscopic specimens 1791.

The museum, through the liberality of its proprietors, is open four days in the week, instead of two, and under special circumstances visitors are often admitted on the other two. The library, consisting of works on all branches of medicine as well as the collateral sciences, embracing a great number of most costly books relating to natural history, amounts to 20,000 volumes; it is kept complete by the regular addition of new works, and affords every facility for

study, being open from 10 o'clock until 4 daily. The books have cost the College about £10,000, and the annual expense of the library is about £600. The average weekly number of visitors is one hundred and twenty. The Council, some years ago, instituted studentships, three in number, with salaries of £100 per annum, which are held for three years. The appointments are bestowed as the rewards of merit, the test being a strict examination.

The College of Surgeons was incorporated by a charter granted in 1800 by George III. Under her present majesty the charter has been amended, and the institution has taken the name of the Royal College of Surgeons of England. To this corporation the Hunterian museum belongs, and to it is also due the credit of having retained the inestimable "intellectual treasure created by the genius of one of her most gifted sons." The manner in which this trust has been augmented; the liberality with which the doors of the museum and library are thrown open to, I may say, every one; the order and talent displayed in the arrangement of the specimens—where, for example, fossil remains are placed in juxtaposition to the most nearly allied existing species, thus making the vestiges of a former world throw light upon the laws of organization—the excellence of the descriptive catalogues; the memoirs published by different members of the College, all testify in the strongest language to the intelligence, love of science, and indefatigable zeal of the governors of the institution. These are men who, by age and professional eminence, have entitled themselves to the management of its affairs.

It would take up an entire number of your Journal to give even a synopsis of the specimens contained in this mighty receptacle, each one with its label descriptive of what it is. The College is about publishing a catalogue of the pathological cabinet, which will contain, as far as it is known, the history of every patient whose case has furnished specimens to the collection. In this department, among thousands of other interesting things, is the sac of a *popliteal aneurism*,

from a man on whom John Hunter operated, at St. George's hospital, in December, 1785. This was the first case in which the operation for popliteal aneurism was performed according to Hunter's new method—tying the vessel on the anterior part of the thigh, at some distance from the diseased point, "thereby to diminish the risk of hemorrhage, and admit of the artery being more readily secured, should any accident happen." This sagacious surgeon was also of the opinion, that "the force of the circulation being thus taken from the aneurismal sac, the progress of the disease would be stopped; and he thought it probable that, if the parts were left to themselves, the sac with its contents might be absorbed, and the whole tumor be removed, which would render an opening in the sac unnecessary." The history of this interesting case is as follows:

The patient was a coachman, aged 45 years; the disease had first been perceived three years previous to his admission into the hospital, and had gradually increased during the whole of that period. He recovered from the operation and returned to his employment, but died from the effects of fever fifteen months afterwards. On examination after death, the cicatrix on the anterior part of the thigh was scarcely perceptible; the ham had no appearance of tumor, and, to the eye, was exactly like that of the other limb; but there was a solid tumor perceptible to the touch filling the hollow between the condyles. The femoral artery was impervious from the point where it gives off the arteria profunda as low down as the portion included in the ligature; and at that part there was an ossification for an inch and a half along the course of the artery, of an oval form, the rim of which was solid, becoming thinner towards the centre, and not bony but ligamentous. Below this part, the femoral artery was pervious down to the aneurismal sac, and contained blood, but did not communicate with the sac itself, having become impervious just at its entrance. What remained of the aneurismal sac was somewhat larger than a hen's egg, but more oblong and somewhat flattened, extending along the

artery a little way; it was perfectly circumscribed, not having the smallest remains of the lower orifice of the popliteal artery, and contained a solid coagulum adhering to its internal surface, and which appeared to be composed of concentric laminæ, uniform in color and consistence.

In the case containing urinary calculi, I observed one taken after death from the bladder of Sir Walter Ogilive, which weighed forty-four ounces Troy, and measured sixteen inches around its longer axis, and fourteen around its shorter. Dr. Powell analysed this calculus, and found it to consist of "the triple phosphate of ammonia and magnesia, with phosphate of lime, and a large quantity of animal matter."

I will mention only one other specimen—a tibia and fibula with a large osseous tumor attached. The tumor has grown almost entirely from the anterior and lateral parts of the upper two-thirds of the tibia; it is of an irregularly oval form, and measures ten inches downwards, about fourteen inches from side to side, and exactly one yard in its chief circumference. Its surface is for the most part smooth, and evenly covered by a very thin layer of compact osseous tissue. Its interior is constituted of coarse cancellous tissue, about as heavy as healthy bone. Its exterior is continuous with the surface of the tibia, the walls of which are expanded and drawn out at its base of attachment. The fibula is pushed outwards, and so compressed by the growth of the tumor, that it is in some parts nearly two inches in width, and hardly two lines in thickness. The limb was amputated at St. Bartholomew's hospital, and weighed, with the foot and its appendages, forty-two pounds. One never grows weary of wandering through this vast repository, where so much is to be seen illustrative of healthy structure, as well as of the ravages of disease; but I fear I have already wearied your readers with these details.

Every scientific traveler in London is attracted to the Royal Institution, not only as the theatre of Sir Humphry Davy's

great achievements in chemistry, but as the place where Michael Faraday is now engaged in lecturing. We are familiar with the name of Faraday at home, and I was impatient to hear him in his laboratory. I believe I cannot interest you more than by giving you some account of the institution to which he belongs, and of one of his remarkable lectures.

The Royal Institution of London, a charter for which was obtained in 1800 and confirmed ten years afterwards, possesses a laboratory for the promotion and advancement of chemical knowledge by original investigations and courses of practical lectures, a large library, and a museum, containing a mineralogical collection, composed chiefly of British specimens. The professorships of chemistry are at present occupied Mr. Brande and Dr. Faraday; Mr. John Lindley holds the chair of botany, and Dr. W. B. Carpenter that of physiology. The chair of natural and experimental philosophy is at this time vacant. Everybody, I suppose, has his notions of what constitutes a lecturer; according to my own, Faraday is, beyond all question, the best to whom it has been my fortune ever to listen. If rapidity without haste, fluency without verbiage, succinctness and earnestness, clearness and propriety of enunciation, and ease and grace of manner, are the attributes of an accomplished lecturer, then he is perfect. He is in size rather below the common stature, and, I should say, about fifty years old. The expression of his face is strikingly intelligent. He manipulates with the confidence, dexterity, and precision of a juggler, reminding one forcibly of feats by sleight-of-hand; such is the quickness and perfection of his experiments. I was told by an intelligent gentleman, who sat by my side, a week ago, listening to the last lecture of his present series, that he rarely ever fails in an experiment. The evening on which I heard him was occupied chiefly with illustrations of the *cohesive force of water*. He first spoke of water in its three conditions of solid, liquid, aeriform. Substances which appear perfectly liquid, and which would remain so for an indefinite length of time, if left in a perfectly quiescent state, become solid by

the slightest mechanical agitation of their particles. This he illustrated by the well known experiment of a solution of the sulphate of soda, which becomes instantly a crystalline mass on the slightest agitation, or by dropping into it a solid body, or simply pouring it from one vessel into another; but owing to the high temperature of the room this experiment was less successful than I have generally seen it.

Dr. Faraday alluded to the somewhat analogous condition in liquids and vapors, which was discovered by M. Cagnard de la Tour, and is known by his name. It is this:—under a sufficient pressure, and at a certain temperature, some liquids, and water among the rest, may be converted into gases which occupy no more space than the liquids themselves. The slightest attention to the properties of water will convince any one of the error of the common notion, that its particles possess no cohesive force. If you immerse a solid body in water, a portion of the water adheres to it; and this has been called by Dr. Daniell heterogeneous adhesion. But since only particular portions of the water can come in contact with the surface of the solid body, it follows that this adhesion can exist only between it and a mere film of water; and from their ability to resist the power of gravity it is obvious that the accumulated globules must be held together by a strong cohesive attraction between themselves. Numerous experiments may be performed to show this. Thus, by balancing a smooth glass plate, with a known area, at the end of a scale beam, and bringing this into perfect contact with the surface of some water, which is done by covering the glass with a thin pellicle of soap, it will be found that more than an equivalent weight is required to lift the glass, and that a mass of water is actually raised up before the plate is detached. Laplace conjectured, though, as Dr. Faraday holds, erroneously, that the force of cohesion between the water and the glass was indicated by the weight required to raise the plate. As only a thin film of water is in actual contact with the plate, only a small portion of its cohesive force is exerted. The weight required to lift the plate from

the water is, in fact, equivalent to the cohesive force existing among the particles of water themselves. Dr. Faraday did not mention the exact force necessary to lift a plate having an area of twenty-five inches, but the number of ounces is surprisingly great.

M. Henry has made the discovery that the boiling point of water may be raised from 212°, its ordinary boiling heat, to 275°, simply by so treating it that all its air shall be expelled. Were it not for the air contained in water, this fluid would not boil at 212°; and when ebullition did take place, the boiling would be like that of concentrated sulphuric acid, turbulent and attended with no little danger. It is therefore the air always present in ordinary water which renders the boiling process tranquil and safe. When the boiling point is raised to 275°, the temperature is equivalent to a pressure of three atmospheres. It is unquestionably the cohesive force of the particles of water among themselves that enables them to resist so high a temperature. This same force we see continually exerted in all those cases in which the liquid is repelled by the surface of solid bodies, where we find that it uniformly assumes the shape of globules. The dew is seen adhering to the grass and leaves in "pearly drops," globular in form.

Dr. Faraday still further illustrated the subject of cohesion by pouring water into a small cylindrical vessel composed of copper wire-gauze. The water remained in the basket as though it were not perforated by countless holes until, by shaking, the force of cohesion was overcome by the power of gravitation. A cup of wire-gauze, with very fine meshes, was next heated to a red heat, and some water poured into it; so long as the heat was preserved the water rolled over the surface, but the moment the temperature was reduced, the water began to escape through the meshes, forming, at the same time, a large quantity of steam. The lecturer alluded to the fact long known, that water may be kept upon a very hot surface without boiling, or generating steam in any appreciable quantity. He poured some water on a

plate raised to a white heat, and it rolled about as a globule of quicksilver would do, producing, so far as the eye could discover, no steam. This water was prevented, by a stratum of dry steam, from coming in contact with the heated surface, and had a temperature really below that of boiling and only 105° Fahrenheit. By cooling the surface to a certain point, contact between it and the water is induced, and then the latter passes off in volumes of vapor. Dr. F. substituted sulphuric ether for water, and the same result was obtained, except that the effect was more brilliant, from the ignition of the ethereal vapor, in the midst of the flame of which a globule of the liquid was seen dancing over the heated surface, but not actually touching it. When the vessel was somewhat cooled, the ether coming in immediate contact with it, a much larger quantity of vapor was formed, and an increase in the size of the flame took place, showing even more clearly than the former experiment that at a very high temperature the fluid is repelled from the surface of the heated plate. This is termed the *spheroidal state* of liquids, and it is on this principle that Boutigny *froze* water in a *red-hot* crucible.

Dr. Faraday repeated this experiment in the following manner:—into a red-hot crucible he poured a quantity of anhydrous sulphurous acid, to which he added subsequently an equal quantity of water. According to the law to which I have just alluded, no contact could exist between the liquids and the heated surface, and the sulphurous acid, boiling very rapidly at a temperature of 14° Fahrenheit, produced so much cold as to freeze the water. The water was hardly added before a lump of ice was turned out of the crucible, the water being frozen by the boiling of the acid. Anhydrous sulphurous acid becoming spheroidal at so low a temperature, it is not necessary to heat the crucible very hot, since the temperature of all liquids in the spheroidal state is a few degrees below their boiling point.

The last, and by far the most brilliant experiment of the

evening, was one which the learned professer performed for the first time before the public on that occasion, and consisted in freezing *mercury* in a red-hot crucible. This he effected by the following simple arrangement:—having heated a platina crucible to the requisite temperature he dropped into it a few lumps of carbonic acid, and added a quantity of sulphuric ether; thus he obtained a freezing mixture in a spheroidal state, equal in the air to a cold of 160° below the zero of Fahrenheit. The ethereal vapor was not inflamed, although the crucible was red-hot. A ladle, containing a globule of mercury, was now immersed in this mixture, and in a short time taken out with the quicksilver as solid as a leaden bullet. A more beautiful experiment one could hardly hope or desire to see. Very many of Dr. Faraday's intelligent looking audience were ladies, who during the evening manifested the liveliest interest both in the remarks and the experiments of the professor. I felt myself surrounded by the pure, the refined, and the great of London, and shall long remember the evening as one of the most delightful of my life. I saw Mr. Brande, a fine looking gentleman, and many other distinguished *savans* in the auditory.

I saw, yesterday, an examination of the body of a man whose case I had watched in the hospital with unusual interest. The patient, 42 years old, had suffered for nine months with difficulty in voiding his urine; his general health was gone; his physicians had diagnosed a lumbar abscess of very large size pointing towards Pourpart's ligament.

I was present when Dr. C, J. B. Williams, after a careful and acute examination, pronounced his disease an abscess of the kidneys. In a week or two afterwards he commenced expectorating pus, and died in a few days. The *sectio cadaveris* revealed an abscess of the left kidney, by which the whole of that organ, except a small part of its cortical substance, had been destroyed, and a lumbar abscess which involved more than one-third of the great psoas muscle. The matter from the kidney had made its way along

the vertebral column, through the diaphragm, and into the lungs, from which it was freely expectorated.

Mr. Ferguson, of King's College, is the most formidable rival Mr. Liston has in London. Like Liston he is by birth a Scotchman, and like him of a fine personal appearance, with an intelligent face, and great suavity of manners. He is about 38 years of age, and is in a fair way to attain greater eminence as a surgeon than he has already won. But it is as an operating and not as a lecturing surgeon that he is acquiring distinction; his powers as a lecturer would never raise him above mediocrity.

The London Lancet is out upon Dr. Elliotson with almost savage severity. As it will be sometime before you receive your copy, in order that you may see how doctors on this side of the great waters write concerning one another, I will give you an extract from an article which I read in a late number of that Journal.

"After a disappearance from University College and a long submergence in the depths of quackery, the mesmerist (Dr. Elliotson) made his appearance on the professional stage on Saturday last. He rises again to the surface not like the diver with pearls in his hands, but with the mud and weeds of the lowest depths about his brow—a by-word, a hissing and a reproach to his brethren. Does he himself treat the harlotry which he dares to call science with respect? Let the profession consider his allies and assistants, taken from the pert folly of the nobility,—the weakest among the literary people, high and low ladies, quack clergymen, itinerant lecturers and exhibiting buffoons. Look at that more than all-damning fact in the cases of this man, his violation of the sacredness of death itself, when he took the O'Keys to the beds of the dying in the University College hospital, and tortured them at the awful moment of dissolution by the half frenzied half hysterical ravings of these tricksters. And this is the man who dares institute comparisons between his own nothings and the great deeds of Harvey!"

Within a few days I have seen the thermometer in the shade as high as 93°. This would be accounted hot weather anywhere.

London, June 25th, 1846.

REVIEWS.

ART. V.—*Animal Chemistry with reference to the Physiology and Pathology of Man.* By Dr. J. FRANZ SIMON, Fellow of the Society for the advancement of Physiological Chemistry. etc., etc. Translated and edited by GEORGE E. DAY, M.A.&L.M., Cantab.; Licentiate of the Royal College of Physicians. Philadelphia: Lea & Blanchard. 1846.

On a former occasion, in a notice of the first part of this work, we expressed the high estimate in which we held it, and deem any further commendation of it at this time unnecessary. The second part which has just been published, and a copy of which has been sent to us by the publishers, completes the work, making a volume of more than seven hundred pages. The size of this treatise will be objectionable with many readers. It will require some resolution to sit down to a volume of such dimensions made up in great part of tables of analysis; but if not many will thus engage in its regular perusal, few, we should suppose, would be willing to be without it as a work for reference. The part just issued contains ten chapters and an appendix, which treat of the secretions of the chylopoietic viscera and the theory of digestion; milk; secretions of the mucous membranes; secretions of the external skin; the urine; secretions of the lachrymal, meibomian and ceruminous glands; secretions and fluids of the generative organs; the intestinal excretion; the component parts of the animal body; solid morbid products; fluid products of disease. Besides these, many other subjects are

presented in the appendix, from which it will be seen that the volume covers the whole chemistry of man.

The saliva is an insipid fluid; destitute of odor, and of very feeble chemical reaction, which would incline one to suppose that it could not possess much scientific interest; but it appears on closer examination to be a somewhat composite fluid. The amount of solid residue in it is small, but small as it is, it affords on analysis "fat, ptyalin, water-extract, spirit-extract, a little albumen, certain salts, and a trace of sulpho-cyanogen." The saliva, according to Berzelius and Müller, takes no active part in the process of digestion. Liebig supposes that one of its offices is to carry oxygen into the stomach, which takes part in reducing the food to the state of chyme. The offices performed by saliva in the animal economy are stated by Dr. Wright to be:—"*Active.* 1. To stimulate the stomach and excite it to activity by contact. 2. To aid the digestion of food by a specific action upon the food itself. 3. To neutralize any undue acidity in the stomach by supplying a proportionate alkali. *Passive.* 1. To assist the sense of taste. 2. To favor the expression of the voice. 3. To clear the mucous membrane of the mouth, and to moderate the thirst." Saliva seems to possess the power of converting boiled starch into sugar, and in this way has some agency in digestion.

The bile is a much more composite fluid, and one which has been a great deal studied. The interest of this secretion to the medical man is greater than that of most others of the animal economy, because of its intimate bearing upon health and disease. In all ages of medicine the bile has been regarded as the secretion especially involved in a long train of human infirmities both of the body and the mind. Horace complains of the effects of his "difficile bilo," and the maladies which have been ascribed to the presence of "black bile" in the body are almost without number. We are attaining to something more like precise knowledge respecting the uses of this secretion, and have, at least, become persuaded that half the disorders of the human body do not arise

from biliary derangement. We have come, pretty generally, to regard the bile as something more than an excretion; or as having something more to do than merely be "pumped" out of the liver by purgatives. Dr. Simon says:

"Bilin and urea can hardly be regarded as simultaneous products of the metamorphic action of the blood; for while I have detected small quantities of urea in the blood of a healthy calf, I have never been able to recognise the least trace of bilin or of bile-pigment. Hence, while urea is produced not only in the kidneys but in other parts of the system, bilin seems to be produced and secreted only in the liver."

What are its precise agencies in the complex operations of the animal body physiologists are far from being satisfied; and indeed chemists are very far from being agreed as to what is its precise composition. It is by no means an easy matter to arrive at satisfactory conclusions on this subject. Remarks Dr. Simon:—

"An accurate quantitative determination of the most important ingredients of the bile, although difficult, is by no means impracticable. It is, however very uncertain whether the result of the analysis would afford any insight into the true character of that changeable secretion. From the latest researches of Berzelius, it appears that the bilin is so unstable a compound, that it is hardly possible to obtain bile in the condition in which it is secreted by the liver, or as it exists in the gall-bladder; for when bile is left to itself, and much more when it is acted on by heat and other more or less energetic agents, the bilin undergoes a series of metamorphoses by which fellinic, cholinic, and very probably also cholanic and fellanic acids are produced. The biliary secretion, as it exists in the liver, may be regarded as pure bilin mixed with biliverdin and fats; the bilin probably commences its metamorphoses in the gall-bladder, and continues them in its passage onwards into the intestinal canal. If fellinic and cholinic acids are formed in the gall-bladder, then the presence of the two bilifellinic acids in fresh bile may be at once assumed, since they are only to be regarded as combinations

of the former with different proportions of bilin. It is not by any means probable that cholic acid exists in fresh bile, and the presence of dyslysin and taurin may be positively denied; consequently, the biliary resin, the mixture of fellinic and cholinic acids and dyslysin does not pre-exist in the bile."

In a note the editor adds the following remarks concerning the destination of the bile:

"That the bile is not merely an excrementitious fluid, intended to remove effete matter from the blood, but that it is a secretion essential to the animal economy, was rendered almost certain by the experiments of Berzelius, Theyer, and Schlosser, which showed that the human fæces contained much too small a quantity of a substance resembling bile to justify the idea that it is evacuated in this manner. A further proof that the bile is absorbed and not excreted, is afforded by an examination made by Enderlin, of the ash yielded by the contents of the different portions of the intestinal canal of a hare. He found that the ash from the contents of the duodenum alone effervesced on the addition of an acid, thus showing that the choleate of soda (which yields the carbonate by incineration,) is absorbed before reaching the jejunum. Schwann has recently established this opinion beyond a doubt, by a series of well-devised experiments on dogs. He tied the ductus communis choledochus, and at the same time formed a fistulous opening in the gall-bladder, by which the bile escaped externally. His most important conclusions are—

"1st. That when the bile does not get into the bowel, its absence is generally perceptible in dogs, about the third day, by a marked diminution in weight.

"2dly. That unless the channel for the conveyance of the bile to the duodenum be re-established, symptoms of deficient nutrition, wasting, debility, &c., ensue, and death is the ultimate consequence."

The section on the *gastric juice, digestion, and the chyme*, is one of great interest, and has been carefully elaborated. What is gastric juice? is a question often propounded, and never yet satisfactorily answered, as appears from the following paragraph:

"The gastric juice has been examined by numerous chemists, in consequence of the importance attributed to it in the process of digestion. There have been found in it free acids, a considerable amount of salts, and certain indefinite animal substances, which were known at the period to which we refer as osmazome or salivary matter. Experiments on artificial digestion have thrown much light on the nature of the gastric juice. Eberle proved that artificially-formed gastric juice does not thoroughly dissolve food, unless a small quantity of gastric mucus, or a portion of the mucous membrane of the stomach be added to it. On the strength of this discovery, Müller and Schwann instituted a series of experiments, from which Schwann was led to conclude that the gastric juice contains a peculiar substance, which, co-operating with an acid, possesses the property of dissolving substances insoluble in mere water, or in a mixture of extractive matters, salts, and a little acid, as for instance, fibrin, coagulated albumen or casein. To this somewhat problematic substance he gives the name of *pepsin:* Wassmann and Pappenheim have endeavored to isolate it."

Since Dr. Simon's labors ceased, the process of digestion has called forth several investigators, and elicited a multitude of experments, to some of which we have heretofore alluded. Blondlot's treatise on digestion promises to take a high rank among the works of which this difficult subject has been so fruitful. It is quoted largely by Dr. Day in the volume before us. According to this writer—

"M. Blondlot believes that the digestive property of gastric juice depends, not on its obvious chemical constitution, but upon a peculiar organic principle. If exposed to a temperature of 104° to 122° F., or higher, it loses entirely and irrevocably its digestive powers, although to all appearance, and even as to its composition, as made known by analysis, it remains unchanged. With the exclusion of the air, gastric juice may be kept for two years without loss of activity; but with the free access of air, it putrifies in five or six days, although the chyme which it forms from nitrogenous organic substances may be preserved for two or three months without change. The precipitation of all the lime it contains does not affect its activity, nor are its chlorides

indispensable, but whatever acts upon its organic constituents, (heat, strong alcohol, or strong acids,) or which removes them, (such as animal charcoal, chlorine, tannic acid, or acetate of lead,) destroys all its digestive properties.

"M. Blondlot also shows—*a.* That coagulated albumen resists the action of the gastric juice only from its compact form. When coagulated in very small particles, as the white of an egg beaten into a froth and poured into boiling water, it is digested as quickly as soft fibrin. *b.* That the action of the stomach in coagulating milk is not due to its digestive principle solely, but to its acid, which acts like lactic acid. *c.* That the effect of the gastric fluid upon bones, whether entire or not, is to disintegrate them slowly, beginning at the surface, and to reduce the earthy matter into a fine chalky powder, but without dissolving or decomposing it. The earthy matter not being dissolved, proves that no hydrochloric acid has acted upon it; it is all discharged with the fæces."

Since the publication of Blondlot's work, Bernard and Barreswil, two French chemists, have published the result of their experiments on the gastric juice. They assume that this fluid owes its digestive properties to the union of two principles—an acid, and a peculiar organic matter destructible by heat. Their views are set forth in the following passages:

"The principal fact which has been adduced to prove that the acid reaction is owing to the presence of biphosphate of lime is, that it may be treated with carbonate of lime without effervescence. Our experiments show that this arises from the dilution of the acid, which allows the carbonic acid to be dissolved as it is formed. When, therefore, the gastric juice is concentrated, it causes a considerable effervescence with chalk. Moreover, gastric juice dissolves neutral phosphate of lime, whilst this salt is entirely insoluble in a solution of the biphosphate. On distilling gastric juice, the first distillate exhibits no acid reaction. If a mere trace of acetic acid or acetate of soda is added previous to distillation, it gives no acid reaction; the normal acid is not therefore acetic. This also appeared, at first sight, to prove it could not be hydrochloric acid; but on distilling water rendered slight-

ly acid by hydrochloric acid, nothing passes over at first but pure water, the acid not distilling until the end of the operation. On distilling gastric juice, a neutral limpid liquor passes over, which is not precipitated with nitrate of silver; when about four-fifths has distilled over, the distillate is perceptibly acid, nevertheless, it does not render a solution of nitrate of silver turbid; but at the end, and when only a few drops of the gastric juice remain in the retort, an acid liquid passes over which precipitates salts of silver; this is, doubtless, hydrochloric acid. Does this acid exist free in gastric juice, or has a chloride been decomposed in this operation? When the least trace of oxalic acid is added to gastric juice which we know contains lime, a turbidity is produced from the formation of an insoluble oxalate of lime; but if to water acidified with 2000ths of its amount of hydrochloric acid, and containing chloride of lime, the same reagent be added, no turbidity ensues. This clearly proves that hydrochloric acid exists as a chloride in the gastric juice, and not in a free state.

"When concentrated by evaporation, gastric juice is highly acid, effervescing with chalk, and not losing its acid reaction in the presence of an excess of the chalk. This proves the presence of phosphoric acid. On saturating the acid with lime and oxide of zinc, and filtering the solution, the neutral filtrate contains both zinc and lime, therefore phosphoric acid is not the only free acid in the juice. What is the acid combined with the zinc and lime in the filtered solution? It is one which, as we have seen, passes over at the end of the distillation, and does not precipitate salts of silver. These characters belong to lactic acid. On distilling water slightly acidulated with lactic acid, a small quantity of chloride of sodium being added, we obtain a fluid analogous to gastric juice; first, pure water passes over, then an acid which does not precipitate salts of silver, and the last drops carry over hydrochloric acid. So that it is evident that the presence of hydrochloric acid in the last product of distillation of the gastric juice is owing to the decomposition of the chlorides by lactic acid."

What the acid in the stomach is which seems to be concerned in digestion, the same authors attempt to determine. They believe it is not hydrochloric or acetic acid, nor indeed any particular acid; for although they always found the lac-

tic present in the gastric fluids, they do not believe that the digestive powers of the gastric juice are owing to this acid. They conclude, as the result of their researches, that if an acid reaction be indispensable at all, other acids may take the place of the lactic. The digestive power of the fluids of the stomach they hold to depend upon the presence of a peculiar organic matter, the properties of which are as follows:—

"It is precipitated and destroyed at a temperature of 190°. One of the most remarkable of its properties is that its digestive powers vary according to the medium in which it is contained. In the gastric juice, which is acid, it dissolves nitrogenous matters, such as fibrin, gluten, and albumen; but exerts no action on baked starch; but if the gastric juice is rendered alkaline by the addition of a little carbonate of soda, it rapidly dissolves the starch, and no longer possesses the power of acting on the nitrogenous matters. As these physiological properties are exactly those of saliva and the pancreatic fluid, it became an interesting point to ascertain if a change in the reaction of these fluids would cause a corresponding variation in their solvent power. This was found to be the case; on acidulating these naturally alkaline fluids, their ordinary mode of action was inverted, and they were enabled to dissolve nitrogenous matters, while their capability of dissolving starch was lost. From numerous and varied experiments they believe that one and the same organic principle (the agent of digestion) exists in the gastric juice, the pancreatic fluid, and the saliva, and that its physiological action varies according to the acid or alkaline nature of the fluid in which it occurs."

Our notions concerning the process of digestion are still in a most unsettled and crude state; we have, indeed, very little knowledge of the changes which the different elements of food undergo in becoming what we style chyme. It is embraced in the following summary of our author:

"1. Albumen is dissolved and chemically changed. This observation was made by Eberle, and has been confirmed by Müller, Schwann, and others. The digested albumen no

longer coagulates at the boiling point; it is stated to have been changed into osmazome and salivary matter, (a vague statement requiring further proof,) and according to Schwann, into a third albuminous principle, which is thrown down by carbonate of soda, and in that condition is insoluble in water and spirit, soluble in muriate of soda, and not precipitable by acetate of lead or alcohol, but copiously by nitric acid and bichloride of mercury, and partially by ferrocyanide of potassium and tannic acid.

"2. Coagulated casein is partially converted by artificial digestion into albumen; soluble casein becomes coagulated when submitted to the action of a solution of sugar of milk and pepsin, but not when acted on by the pepsin alone.

"3. Fibrin is rapidly dissolved, and, from the experiments of Tiedemann and Gmelin, appears to be partially converted into albumen.

"4. Glutin becomes so changed by artificial digestion, that it loses its property of gelatinizing, and can no longer be precipitated by chlorine.

"5. Sugar of milk, when submitted for a sufficient time to the action of pepsin, becomes completely converted into lactic acid. This fact has been established by Fremy and myself.

"6. Starch is partially converted into sugar. (Tiedemann and Gmelin.)

"7. The fluid found in the stomach of a horse, fed with oats, contained butyric acid, a resin, a substance resembling extract of flesh, salivary matter, and albumen."

The celebrated William Hunter was among those who held the digestive process to be one essentially vital, and in addressing his class on the subject he is reported to have used the following language:—"Physiologists will have it, gentlemen, that the stomach is a mill; others that it is a fermenting vat; others again that it is a stew pan; but in my view of the matter, it is neither a mill, a fermenting vat, nor a stew pan, but a *stomach*, gentlemen, a stomach." But this lucid view of the matter has not been universally adopted. There are those who still hold that a stomach is not quite indispensable to the business of digestion. Dr. Simon, from the following, seems to be of that number.

"From recent experiments on digestion, we know that alimentary substances are dissolved as rapidly in an artificial digestive fluid, consisting of pepsin and properly diluted muriatic acid, as they are in the gastric juice itself. Hence we are justified in the conclusion that pepsin, the free acid, and a suitable temperature, are the principal agents in gastric digestion, and that the motions of the stomach are chiefly with the view of promoting the due admixture of the food with the secreted fluid, and of propelling it towards the pylorus, through which it must pass in order to enter the duodenum. It is impossible to state with certainty whether the pepsin and free acids dissolve and modify the food through a catalytic influence, or whether they enter into any chemical combination with it, the products of these combinations being the dissolved and changed matter. If, however, the conversion of sugar of milk into lactic acid is explained by the catalytic action of the pepsin, we may fairly conclude that the pepsin exerts a similar influence on other substances, if no facts to the contrary present themselves. Hünefeld is inclined to attribute considerable influence in digestion to the ammoniacal salts of the gastric juice, in consequence of having observed that under certain conditions fibrin is readily soluble in the muriate or lactate of ammonia, especially when free lactic acid is also present."

It has always appeared to us somewhat inconsistent in the advocates of the vital theory of digestion to insist upon the power of the gastric juice to digest the stomach after death, and at the same time deny that it can digest other matters by virtue of its mere chemical attributes. If it can dissolve the coats of the stomach when the principle of life is no longer present to protect them, why not dissolve the food in the stomach independently of the vital principle? Vitality is most clearly out of the question in one case; why suppose its presence and co-operation necessary in the other? Digestion, where the stomach is the subject and not the agent, is chemical, beyond the possibility of a cavil; why not allow, then, that it is chemical also in all the cases where, not the stomach, but its aliment, undergoes the change? It is not philosophical to multiply causes. If chemistry is adequate to

the process in one case, we see no room to question that chemical action is present in all.

We do not propose to follow the author through all his analyses, and shall therefore pass unnoticed many chapters which seem of subordinate importance. The perspirable matter is one of the secretions which the physician never overlooks, and all that can be known respecting it has interest for him. Dr. Simon has the following observations in regard to morbid sweat.

1. *The quantity of the sweat is sometimes increased in an extraordinary degree.*

"Thus critical sweats are usually very abundant, continuous, and watery, in intermittent fevers, in rheumatic affections, and in colliquative disorders.

"2. *The quality of the sweat is changed.*

"*a.* The sweat may be distinguished by a peculiar odor. The sweat of persons with the itch is said to have a mouldy odor, while that of syphilitic patients is said to smell sweet. The sweat of rheumatic and gouty persons has an acid smell, while in putrid fever and scurvy, it has a putrid odor; in jaundice it is said to resemble musk in its smell. In Stark's General Pathology, (p. 1126), we find it stated that the odor of the sweat in scrofula resembles that of sour beer, while in intermittent fever it smells like fresh baked brown bread. The determination of odors is, however, very subjective, and (with a few exceptions) it is more than probable that different observers would detect different resemblances.

"*b.* Some of the normal constituents may be abnormally increased.

"1st. *The free acid of the sweat may be increased.* Lactic acid, which is the ordinary free acid, is usually increased in cases of rheumatism and gout; the sweat in these diseases has a strong acid reaction. When there is also an acid odor acetic acid is present. Prout has found free acetic acid in the sweat of a person suffering from hectic fever. After an attack of acute rheumatism, the joints of the feet remained swelled, for which potash baths were ordered. These baths, in the course of three weeks, brought on an attack of ecze-

ma, extending as high as the knee. The sweat from the feet had then a decided odor of acetic acid, which became more strongly developed when they were sharply rubbed. Anselmino found free acetic acid in the sweat of women during their confinement; and, according to Stark, the quantity of free lactic acid is increased in the sweat during scrofula, rachitis, and certain cutaneous eruptions.

"2d. *The ammonia of the sweat may be increased.* Anselmino found a larger proportion of (free?) ammonia in the sweat after an attack of gout than in any other case. Berend states that the sweat in putrid and typhus fever is ammoniacal; and in nervous diseases(?), according to Nauche, it becomes alkaline. All sweat with a putrid odor probably contains free ammonia.

"3d. *The salts may be increased.* Prout observed that in the case of a man with dropsy the skin became covered with a white saline crust of chloride of sodium, after an abundant perspiration. Anselmino found in the sweat, after a severe attack of gout, more salts than usual. In cases of gouty and urinary concretions, the quantity of phosphate of lime appears to be increased.

"*c.* Abnormal constituents may be present in the sweat.

"1st. *Albumen* has been observed by Anselmino in a critical sweat, which broke out in large quantity one evening over the whole body in a case of febris rheumatica, with severe pains in the joints; on the following day it had disappeared. Stark asserts that albumen may be found in the sweat in gastric, putrid, and hectic diseases, and also on the approach of death, in consequence of the abnormal solution of the solid constituents. I failed in detecting any certain indications of albumen in sweat collected (by means of linen washed with distilled water) from the breast of a person in the colliquative stage of tubercular phthisis.

"2d. *Blood or its constituents.* Voigtel observed an instance of bloody sweat from under the arm of a young man; it appeared after any violent exertion. In scurvy, putrid fever, and typhus icterodes, bloody sweat has likewise been observed.

"3d. *Uric acid* is stated to have been found in the sweat of arthritic persons (Stark). Wolff found that the sweat which had hardened on the forehead into a solid white substance, (in a patient with stone in the bladder), contained uric acid. Urate of soda is likewise stated to have been found in the sweat of persons suffering from gout or stone.

"4th. *Bilin and biliphœin* have been found in the sweat of persons with jaundice, and sometimes in such large quantity as to color the linen yellow, and to communicate a bitter taste to the perspiration. According to Berend, the sweat in febris putrida biliosa likewise contains bile-pigment.

"5th. *Red coloring matter of the urine (uroerythrin)* was found by Landerer in sweat from the axilla of a fever patient. A blue coloring matter, doubtless allied to cyanurin, has occasionally been observed in the sweat. Dr. Bleifuss has seen blue sweat from the foot of a patient with disease of the abdomen. Michel has likewise observed it in an hysterical woman and in a hypochondriacal man; it was most marked on the right side of the body. Billard observed a blue sweat on the upper part of the body of a girl.

"6th. *Fat* is stated to occur in colliquative hectic sweats.

"*d.* Substances altogether foreign to the animal organism may be conveyed, through the process of digestion, into the blood, and then occur in the sweat.

"Landerer has observed in his own person that after taking large doses of quinine, the sweat assumed a bitter taste of the drug. The following substances enter into, and have been detected in the sweat; sulphur, mercury, iodine, iodide of potassium, asafœtida, garlic, saffron, olive oil, rhubarb, indigo, prussian blue, and copper. (Stark, General Pathology, p. 1127; Baumgärtner, Elements of Physiology and Therapeutics, p. 486.)

"Many of these statements, regarding the change undergone by the sweat in disease, are fully confirmed; some must, however, still be regarded as doubtful."

A hundred and eighty-two pages of this volume are taken up with the consideration of the urine, one the most complex secretions of the animal body. Still, our author remarks, the relative proportions of its different constituents are not very variable. The following are stated to be the ordinary constituents of healthy human urine: "Urea; uric acid; [hippuric acid;] extractive matters, embracing alcohol-extract, spirit-extract, and water-extract, with their respective constituents; mucus; brown coloring matter of the urine (hæmaphæin); red coloring matter of the urine (uroerythrin); carbonic, lactic, hydrochloric, sulphuric, phosphoric, silicic, and hy-

drofluoric acids; soda; potash; ammonia; lime; magnesia; and peroxide of iron."

The qualitative analysis of urine is not difficult, many of its elements being easily detected; but some are discovered only by isolating them, which requires a more thorough analysis. The specific gravity, which throws a good deal of light upon the character of the urine, may be accurately and very conveniently determined by the ordinary 1000-grain bottle, which physicians would do well to make a part of their shop-furniture. This bottle is used with convenience in examinations of the blood, the specific gravity of which it is often of consequence to determine.

The urine must vary in its constitution with the nature of the food taken by the individual. It is not the same under a diet of animal matters, as when the food is vegetable. Numberless soluble substances reach the urine from the alimentary canal, and affect its color, taste, and odor, as well as its chemical properties. It is acid under certain circumstances, and under others alkaline. And what is still more curious, it often contains a larger quantity of certain salts than was to have been found in the food of the individual. The sulphates, for example, are frequently found in excess in this secretion, having come from the oxidation of sulphur in the animal economy, sulphuric acid being developed, which, uniting with the bases, affords these salts. Something analogous to this we see going on in nature around us every day, where *sulphuret* of iron becomes the *sulphate* of iron by oxidation in the atmosphere. As this slow combustion of sulphur and iron is attended with the formation of sulphuric acid and a sulphate, so in the animal economy the sulphuret of potassium becomes the sulphate of potash by imbibing an additional dose of oxygen. The following remarks of Dr. Simon on this subject will be read with interest:

"It is clear that the excretion of a salt taken with most of our articles of food, must be entirely dependent on the quantity consumed, and must therefore vary very considerably.

The urine, generally speaking, is deficient in salts during disease: our analyses show that the deficiency occurs at the expense of the chloride of sodium; the sulphates and the phosphates taking only a small part in it. I have analysed urine in typhus which contained a mere trace of chloride of sodium.

"Lecanu observed differences similar to those we have just noticed in alkaline sulphates and phosphates. The quantities excreted in twenty-four hours not only varied in different persons, but also in the same person at different times. From my analyses, and those of Lehmann, it appears probable that a connexion subsists between the quantity of urea and of the sulphates, and possibly of the phosphates likewise; that is to say, the sulphates always increase with the urea, and *vice versa*. I incline, therefore, to the opinion of Berzelius, that at least a portion of the sulphates and phosphates owe their origin to the oxidation of sulphur and phosphorus, previously associated with protein which has become changed during the active metamorphosis of the blood. We do not, however, mean, in making this statement, to deny that the salts are also supplied to the blood by the food, and again separated by the kidneys.

"The five following results, of much importance in physiology, have been deduced from the admirable researches of Lecanu:

"1. The quantity of urea excreted by the same person during equal periods is constant.

"2. The same is the case with respect to the uric acid.

"3. The quantities of urea and uric acid excreted by different persons during equal periods are variable.

"4. The varying amounts of urea excreted during equal periods by different persons, bear a relation to age and sex.

"5. The amount of fixed salts varies in different persons without reference to age or sex. It also varies in the same person during equal periods.

"An observation simultaneously made by Lehmann and myself, appears to me of high physiological import. We have ascertained that the amount of the urea, as well as of the sulphates, is increased by strong bodily exercise. I produced this state by taking such violent exercise for two hours that the pulse continued for some time above 100."

We append his summary in which the leading facts established by the researches of chemists are given in few words:

"To sum up once more: the urine is most abundant in urea, uric acid, and the most important salts, in men in the prime of life; it is less rich in these constituents in women, while the minimum occurs in old men and children. The nature of the food exerts an influence upon the composition of the urine; the amount of urea is increased by an excess of nitrogenous food, and diminished after living on food deficient in nitrogen. Upon a diminution of the quantity of food, the urine becomes deficient in nitrogen, as has been shown by my own experiments and those of Lehmann; but the separation of nitrogenous compounds, as for instance urea, through the urine, occurs even when no food is taken. The urine is most abundant in urea and sulphates after active bodily exercise, in consequence, doubtless, of increased vascular excitement. The quantity of urine discharged in 24 hours, amounts on an average to about 45 ounces. It is more abundant in the prime of life than in old age or childhood, and in the male than in the female sex."

Our author next proceeds to the consideration of the urine as affected by disease. The pathological changes may be reduced to one of the following forms: 1. One or more of the normal constituents of the urine may be in excess. 2. One or more of these may exist in less quantity than in healthy urine. 3. A normal constituent may be absent. 4. Substances not natural to the urine may be present. Something may be inferred respecting the constituents of the urine from its appearance. Simon says—

"I have already observed that the proportion of solid constituents to the water is so very variable, is so dependent upon the vicarious action of the skin and lungs, and upon the quantity of fluid that has been taken into the system, that it is impossible (without taking other facts into consideration) to determine from the urine alone, whether a mere increase or decrease of the solid constituents is due to diseased action. Pale urine, more or less like water, may be fairly considered deficient in solid matters, while a deep brown color is indicative of an abundance of these constituennts.

"The specific gravity, and still more the determination of the solid constituents in the manner which has been already described, will give the required information. The color of

the urine is sometimes deceptive, especially the fiery red that occurrs during fevers. Urine of this sort is frequently found to be poorer in solid constituents, and its specific gravity lower than we should have anticipated from its color: it is usually, however, more abundant in uric acid than normal urine."

In hysterical affections, and in nervous disorders generally, the quantity of water in the urine is increased. Becquerel relates a case of a girl who ordinarily secreted daily about thirty-seven ounces of water, but in whom the amount rose to ninety ounces on the occasion of a severe hysterical attack. On the other hand, in inflammatory affections the quantity of water is very much diminished. The author just quoted has seen it fall as low as twelve ounces in twenty-four hours, in patients laboring under the phlegmasiæ. In such cases the urine is dark-colored, of a high specific gravity, and possesses a strong acid reaction. The quantity of urea in such affections is absolutely or relatively increased; the food being reduced it ought to decline, but such is not the case. The waste of the body compensates for the diminution in the quantity of aliment. In diseases marked by a deficiency of blood, the quantity of urea is diminished. Chlorosis may be given as an example, and in typhus Simon found the same to be true. Uric acid varies according to the pathology of the ailment. It is increased in inflammations and the paroxysms of fevers. Our author continues—

"The following pathological conditions lead, according to Becquerel, to an increased quantity of uric acid: fever; great general functional disturbances, such as arise from oppressive dyspnœa in pulmonary emphysema or cardiac disease, acute pain, convulsions, delirium, &c., especially when attended with fever; and diseases of the liver, as hepatitis, cancer, or cirrhosis. The amount of uric acid is diminished in those cases in which there is a deficiency of blood, or where the blood is poor in corpuscles. Becquerel found this to occur in cases of chlorosis and anemia, and in persons in whom the vital juices seemed dried up. The amount of the salts

in the urine fluctuates extremely during disease. Generally speaking, we may assume that the quantity of salts decreases in most pathological states of the system; the cases in which the salts increase during disease being very rare. Becquerel states that in those diseases in which the amount of urea is only slightly diminished, the proportion of salts is not materially affected; but that in those cases in which the urea suffers a considerable reduction, the same takes place with regard to the salts. Analyses of inflammatory urine are, however, opposed to this statement, since in these cases the urea sometimes exceeds the normal amount, while the salts are decreased in an extraordinary manner. It is to be regretted that Becquerel has not undertaken an exact quantitative separation of the different salts, as the increase or decrease of the fixed salts collectively is a circumstance of much less importance than the varying relative proportion of the individual compounds."

The physiological average of uric acid, Simon thinks, may be placed at 1·5% of the solid residue; and in the phlogoses he has found it rise as high as 3%, while Becquerel has seen it amount to 5·9% Again, the quantity of extractive matter, which in normal urine amounts to 23·5% of the solid residue, rises in inflammations to 43%, and, on the contrary, the fixed salts decline here from 25 to 12, or precisely one-half. Abstractions of blood change the character of the urine; "it becomes clearer, specifically lighter, and the amount of urea decreases absolutely and relatively."

The urine of lunatics has recently been examined with much care, and it seems that it is characterised by an excessive quantity of ammonia in the form of a carbonate, urate, hydrochlorate, or ammoniaco-magnesian phosphate. In delirium tremens it varies; being now in a normal condition, and again of an inflammatory type; from which we may infer that the disease is not uniform in its character. In bronchitis it is "scanty of a dark-red color, strongly acid, and of a high specific gravity." Becquerel detected albumen in the urine of such cases. In pneumonia the urea is diminished, and the extractive matters, especially the alcohol-extract, are increased. Schonlein, one of the most ac-

curate of observers, has found that "the crisis in pneumonia shows itself in the urine by the secretion becoming turbid and sedimentary; after ten or twelve hours a crystalline micaceous deposit forms, above which the urine becomes clear." Upon which Simon remarks:

"The following instance is strongly confirmatory of Schönlein's opinion. In a case of pneumonia that recently occurred in his own wards, the urine during the height of the inflammatory stage, was dark, very acid, and deposited no sediment; at the period of resolution it became paler and neutral; one morning I found it yellow, neutral, and with a sediment of white crystals visible even to the naked eye. The microscope at once revealed the beautiful shapes assumed by the ammoniaco-magnesian phosphate. I was much struck with the singular relations of the urine itself. It was perfectly neutral; and any acid, even dilute acetic, threw down a white precipitate, which led to the supposition that caseous matter was present; I soon, however, found that this was not the case, for on treating a portion with hydrochloric acid and allowing it to stand for some time, very beautiful, nearly colorless crystals of uric acid were deposited."

It would be interesting to follow our author through his long list of diseases—gastritis. dysentery, pleuritis, hepatitis, nephritis, &c.—and note the changes wrought by each in the condition of the urine; but we must forbear. It may be that we have already extended our notice of his work too far for the taste of many of our readers. If so, while we crave their pardon, we must beg them to remember, that one whose business it is to cater for the palates of others, must be governed somewhat in his choice of subjects by the promptings of his own intellectual appetite. We find "the chemistry of man" to our taste. We like its precision, its condensation, its array of facts. Not a page, not a paragraph, but conveys some truth bearing upon the constitution of the animal frame. Many of these, for the present, may appear to be without any essential import—naked facts, the *value of* which cannot be perceived; but their utility will

become apparent in due season. The field has just been opened; the virgin soil is not yet fairly turned up to the air and the sun; but the harvest is coming on and promises to be a rich one. The chemistry of man deserves a place among our medical studies.

ART. VI.—*Observations on Remittent Fever as it occurs in the Southern part of Alabama.* By WILLIAM M. BOLING, M.D., of Montgomery, Alabama. From the American Journal of Medical Sciences for April, 1846. 8vo. pp. 56.

Dr. Boling is known to our readers as an industrious and judicious writer, zealously bent upon the advancement of medical science, and ready and able to communicate to his professional brethren the results of his professional experience. His various papers published in this Journal and elsewhere show him to be a man of close and patient observation, of sound judgement, excellent powers of discrimination, and independence of thought and opinion. This tract appeared a few months since in one of our contemporaries, and copies of it have been done up in pamphlet form for gratuitous distribution among the author's friends. It has already attracted an unusual share of attention, having been referred to frequently by Dr. Clymer in his late treatise on fever, and noticed in complimentary terms by many of the medical journals of the United States. Among other forms of fever not so commonly observed, Dr. Boling describes the *comatose* remittent, of which he says—

"Generally after a slight chill, high febrile excitement comes on, with flush of the face and general redness, with fulness and plumpness of the surface of the body; full and firm pulse; throbbing of the carotids; and deep and complete stupor. The respiration is slow, deep, and sometimes stertorous. Pupils frequently dilated, rarely contracted. The patient remains in this condition for a longer or shorter period, according to the type of the fever, tertain or quotidian. Gradually the stupor wears off, and for several hours of a re-

mission scarcely any appearance of danger may be present. Again, at the regular period, but frequently anticipating by several hours, the same train of symptoms set in with greater severity, to be followed by a less perfect remission, and so with each paroxysm, till a fatal termination takes place, or a favorable influence is exerted on the disease. The remissions are sometimes so imperfect that even at this time there is a tendency to stupor, and in one case that I treated in 1842 the patient lay eight days without speaking. When called to him he presented all the symptoms of apoplexy, and nothing revealed the true nature of the case but a disposition to yawn and stretch every morning, continuing from 7 A.M. to 10 A.M., and a slight abatement in the force, and a diminution of a few beats in the frequency of the pulse, with a temporary disappearance of the stertor. During the remissions, while yawning and stretching, his appearance was exactly that of a person just awaking from a sound and refreshing sleep, and the bystanders, even those who had seen him several times, could scarcely divest themselves of the impression that this was the case, and were in momentary expectation of seeing him open his eyes and address them. The case terminated favorably, the patient waking up during the hour of remission on the 9th morning, and required but little treatment after."

In the neighborhood of this city cases of comatose remittents and intermittents are occasionally seen, the termination of which, now and then, is in sudden death. Patients have been known to suffer for several days with slight paroxysms of fever, hardly keeping their beds, and deeming medical aid almost unnecessary, and then, at the access of the chill, fall into an apoplectic state and sink in a few hours. Ordinary observers would find some difficulty in distinguishing such cases from apoplexy; but the state of the skin and pulse reveals their true character to the medical man.

This paper is creditable to the industry, zeal and talents of the author, and will advance his reputation as a physician and a writer.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Alkalies as a remedy in Cutaneous Diseases.—M. Devergie has recently published some interesting observations on the alkaline treatment of skin diseases. He has employed alkalies in both papular and scaly affections; but with most success in the former, and particularly in the various forms of lichen. He employs three salts: the bicarbonate of soda, the carbonate of soda, and the carbonate of potash. The first of these he administers only internally, and usually prescribes it in solution, in some mild stimulant bitter infusion, or in carbonic acid water, the latter being an imitation of Vichy water. The dose at first is fifteen grains daily, in three or four glasses of the infusion, and this dose is augmented by eight grains every third day, until it arrives at one drachm, which dose is not exceeded. Externally the alkaline treatment is used in four different forms: in baths, in lotions, in powder, and in ointment. For the preparation of baths, either the carbonate of soda or carbonate of potash is employed—the quantity used for a single bath varying from eight to sixteen ounces, the strength being gradually increased. For scrofulous or debilitated individuals, he recommends the addition of one pound of common salt to each bath. The alkaline lotions are found of special benefit in skin diseases affecting parts covered with hair, as in the scalp, where they are usually so obstinate. For a lotion, from two to three drachms of carbonate of soda are dissolved in a pint of water. To the benefits derivable from the use of this alkaline wash in chronic eczema and impetigo of the scalp, we can bear testimony, from an extensive experience of its employment, both in hospitals and in private practice. The alkalies are used in the form of powder, as a depilatory, in tinea and in scycosis men-

tis. M. Devergie, however, employs the alkalies chiefly in the form of ointment, and sometimes combines a little quicklime or a little sulphur, with them. He uses ointments of different strength, according to the nature of the disease. Thus, for lichen and its forms, the proportion is from eight to fifteen grains of carbonate of soda to the ounce of lard; for lepra, psoriasis, or icthyosis, fifteen to thirty grains to the ounce of lard; and for porrigo favosa, thirty to sixty grains, with a grain or two of quick-lime. It must be remembered, that the carbonate of potash is more caustic than the carbonate of soda. The following are some of the formulæ he employs:—*Alkaline Liniment.*—Carbonate of soda, ʒi.; olive oil, ʒiv.; the yolk of one egg; first moisten the carbonate of soda, and then incorporate it with the oil and yolk. *Alkaline Syrup.*—Bicarbonate of soda, ʒss.; simple syrup, ʒviii.; dose, a teaspoonful, morning and evening, in a glass of water. *Alkaline Powder.*—Carbonate of soda, in an impalpable powder, one part; fine starch ten parts. For external use only.—*Annuaire de Thérapeutique*, 1846.—*Bul. Med. Sci.*

Case of Placenta Prævia. By G. F. Stickings, Esq. On the 20th instant, at 1 A. M., I was requested to attend Jane Bolton, aged 40, in labor of her twelfth child. On my arrival I was informed that she had had flooding for upwards of three hours: it had much increased during the last hour, and was still continuing. That she had lost much blood was evident from the bedding being completely saturated. On making an examination per vaginam I found the os uteri considerably dilated; the placenta presenting, and attached around its cervix. Having on a former occasion seen the value of removing the placenta, when so presenting, previously to the birth of the child, I hesitated not a moment (especially as the parturient process was active), but proceeded to separate it carefully from its attachment. This was accomplished without much difficulty, the hemorrhage ceasing immediately on its removal. The head presented naturally; the uterus acted with vigor, and a living male child was expelled. I am happy to state that the patient is doing extremely well.

I offer this as an additional proof of the value of the new mode of practice, in cases of presentation of the placenta.—*Med. Gaz.*

On the Chlorosis of Adults. By M. Blaud. There is a disease, pretty commonly met with, which seems to me to have escaped the observation of most practitioners. This affection, of great danger if misunderstood, is the *Chlorosis of Adults.* I do not allude to that decoloration of the skin dependent upon some prior disease, such as hemorrhage, intermittent fever, or some organic lesion, acute or chronic, &c.; but to an *essential idiopathic chlorosis*, proceeding from no other cause but such as produces it directly, that is, a particular defect of hæmatosis, and which can only be relieved by re-establishing the normal condition of this function.

Chlorosis is by no means peculiar to young girls arrived at puberty, and it is from want of attention to this fact, that many practitioners have mistaken it, when occurring in adults, for different organic lesions which in fact had no existence. Some, seeing the pale or yellow skin, have declared it to be symptomatic of hepatic lesion, and others have attributed it to affection of the spleen. Some attribute the dyspnœa and palpitations to lesions of the heart or large vessels, and others see in these the symptoms of an asthma. Such different views lead to various plans of treatment, none of which are efficacious, the chlorosis, indeed, seeming to derive a new intensity from their operation. Chlorosis may attack adults of either sex, any age, and of any condition in life. We have seen subjects of it, persons leading the most active and laborious lives, and others passing their time in luxurious idleness. The sober and the intemperate; those whom misery oppresses, and those who enjoy every abundance in life, may alike become its victims. So that the *predisposing* causes of the affection are as yet very obscure. The colorless and serous condition of the blood, the general debility, and languor of every function, seem to show that defective hæmatosis is the *proximate* cause. The *symptoms* are the same as in the chlorosis of young girls,—such as the yellowish-green skin (the conjunctivæ preserving their normal whiteness,) dyspnœa upon locomotion, *bruit de souffle* in the course of the carotids, &c. Still there are modifications noticeable. The color of the skin is rather greyish or earthy, than yellow, in consequence of its rough or wrinkled state, especially in the face. The palpitations are more severe; while there is moreover a deep, insupportable *malaise*, sometimes accompanied by a disposition to suicide, and a more or less abundant anal hæmorrhage coming on at irregular intervals. With the general langour and disorder of the digestive organs, there is œdema of the extremities; and, if the disease be left to itself, a serous

effusion into the cavity of the abdomen results from the atony of the absorbents. However severe these symptoms may appear, they never resist appropriate *treatment*, when this is not resorted to too late.

Of the cases he has met with, M. Blaud selects eight for description, four of them being women from 26 to 37 years of age, and the others, men engaged in active or laborious occupations. In most of these, various kinds of treatment had been employed before they came under the author's care, in the idea that organic disease was present: but he, guided by the general appearance of the patient and the absence of marked signs of such lesions, treated them all for chlorosis with complete success. He employed his own anti-chlorotic pills,* which have attained so high a reputation in France, in every case; and complete cures resulted in periods varying from 10 to 30 days of taking them. He adds in a note, that long experience has convinced him that these pills are also a specific in *intermittent fever accompanied with œdema of the lower extemities*, which has resisted quinine and all other febrifuges.—*Med. Chir. Rev.—Bul. Med. Sci.*

Dr. Forbes and Homœopathy.—In our last number we gave the conclusion of Dr. Forbes's explanation of his article on Homœopathy which, as we stated, had elicited a great deal of remark from his professional brethren. We append the whole of his paper not already inserted, and are sure it will be read with interest.

The article in the last number of this Journal [*British and Foreign Medical Review*] entitled 'Homœopathy, Allopathy, &c.,' as was, perhaps, to be expected from its subject and object, has attracted a more than ordinary degree of attention from the profession. The editor has, in consequence, been favored with numerous communications relating to it from his friends in all parts of this country, as well as from the continent of Europe, and from America. The views of the writers are, on the whole, in remarkable accordance with those given in the article; and the opinion is generally and strongly expressed, that some such changes in the manner of studying and treating diseases as are there propounded, are absolutely necessary for the successful progress of rational medicine. So

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*Made thus: ℞ Equal parts of sulph. iron and carb. potas, powder separately and mix intimately; make into pills of six grains; of which 2 to be *taken* thrice daily for 3 days; 4 as often for as many days; and then 6 *three times* daily till cured.

convinced is the editor (the author of the article in question) of the truth and importance of this subject generally, that he now offers to open the pages of his Journal for its special consideration, if it shall be found that the warm interest at present excited by it, proves to be deep and strong enough to supply materials for its continuous elucidation and advancement. This is doubted. Still it has been thought advisable to evince practically and without delay, the earnestness with which the subject has been taken up and is sought to be promoted by the editor. From among the numerous contributions with which he has been already favored, two have, with the sanction of their authors, been selected for publication in the present number. Whether these shall be followed by others, in subsequent numbers, will, as just stated, depend on the inclination of the profession. It will afford the editor much satisfaction to be able to present to his readers any authentic communications of the same high stamp and admirable tendency as those now submitted to their notice.

Before concluding this prefatory notice, the author of the article on Homœopathy and Allopathy desires to make a few brief observations in reference to one or two points in it, on which he finds he has been somewhat misunderstood. The misconception is admitted by him to be natural on the part of his readers, in consequence of the necessity under which he found himself, for want of both room and time, of leaving all the latter part of the article a mere sketch or outline. Had he completed the whole subject on the same scale as was allowed to the exposition of the character and fallacies of homœopathy, he believes that he would have left no grounds for the friendly criticisms and gentle remonstrances which some of his very estimable and enlightened correspondents have addressed to him. Most assuredly, in this case, he would have run no risk of being set down—as he finds he has been set down by a few of his more careless readers—as favoring homœopathy; as denouncing rational therapeutics on the old system; as sceptical of the powers of all medicines; and as desirous of having diseases generally abandoned to the influences of Nature.

With regard to the charge of favoring homœopathy, it is submitted that it is the first duty of the historian to give an impartial narrative of the events and a fair exposition of doctrines, without prejudice or affection. This, it is believed, was done. And if full credit was given by the author of the article to the statements in the documents submitted to his consideration, and full justice rendered to the characters of

the individuals concerned, this was done—simply because it was felt to be just and right so to do. The writer might be mistaken in the estimate he formed of the value of the premises, but having conscientiously formed that estimate, its expression was a matter of course. The obligation of candor, imposed on all inquirers, was the more imperative in the present case, inasmuch as the writer felt that he stood in the position of a declared antagonist. And he knew, moreover, that anything approaching to unfairness could, in the end, only tend to injure its author and the cause he advocated. The writer was, indeed, too profoundly impressed with the reality and value of the ordinary system of medicine (miscalled in the article *allopathy*, to avoid circumlocution) to entertain any fears from conceding to homœopathy everything which it could possibly claim of right. And he cannot help indulging the belief that the arguments adduced against the validity of its doctrines will be found to be more efficacious than many previously urged, simply because more candor has been shown in examining these doctrines, and more justice done to the characters of the men who have originated and professed them.

Probably the statement in an early part of the article, to the effect that, 'homœopathy might be the remote, if not the immediate cause, of more important fundamental changes in the practice of the healing art, than have resulted from any promulgated since the days of Galen himself,' made an impression on some readers who did not attend to the qualifications afterwards given. The 'fundamental changes' alluded to had exclusive reference to the indirect or negative operation of homœopathic practice, in furnishing us with 'the means of instituting a grand natural experiment in therapeutics,' by leaving diseases really to nature, though nominally to medicinal treatment. And it is a profound conviction of the great importance of the knowledge to be thus obtained, which makes the writer now reiterate the statement, as well as another in a subsequent part of the article to the same effect, viz., 'that the doctrine of Hahnemann will have [*thus*] conferred an inestimable benefit on the healing art.' It never was intended to be conveyed as the opinion of the author, that the homœopathic treatment was valuable in itself, or that the system of rational eclectic medicine advocated by him, could derive any direct benefit from homœopathy by the adoption of any part of its so called medicinal therapeutics.

But, the writer thinks, moreover, that the declaration of his opinions, in more than one part of his paper, was sufficiently

positive, clear, and forcible, to secure him from the charge of favoring homœopathy in any way, or of over-estimating it at the expense of rational medicine. For instance, having in the course of the investigation come to the conclusion that homœopathy is to be utterly rejected and the old faith still adhered to, he added: 'In doing so, we consider, that though we are embracing a system extremely imperfect, we are, at least, embracing one which, with all its faults, contains a considerable amount of truth, and yet a greater amount of good; and which, above all, is, or may be made, in its exercise, consonant with the principles of science, and is capable of indefinite improvement; while, *in rejecting homœopathy, we consider that we are discarding what is, at once, false and bad—useless to the sufferer and degrading to the physician.*' (p. 250.) And again: 'It may possibly be inferred that we are entirely sceptical of the truth of medicine as a science, and think most meanly of it as a practical art. And yet this is not so. On the contrary, we look upon medicine, regarded in all its parts and all its bearings, as a noble and glorious profession, even in its present most imperfect state; and we believe it destined to become as truly grand and glorious in actual performance, as it now is in its essence, its aims, and its aspirations.' p. 259.)

A more specific charge has been made against the author for admitting, without sufficient coroborative evidence from other quarters, the validity of the results given in Dr. Fleischmann's Report. He anticipated this charge, and endeavored to guard himself, in some degree, against it, by stating that while he allowed Dr. Fleischmann to be a man of honor and respectability, and incapable of attesting a falsehood, he could only admit his statements 'with that liberal subtraction from the favorable side of the equation, which is required in the case of all statements made by the disciples and advocates of new doctrines.' (p. 242.) The 'subtraction' necessary in every individual case, assuming the narrators to be honest, will depend on many circumstances, both personal and relative. The author was and is disposed to make it very ample in the present case—so ample he believes, as would deprive Dr. Fleischmann and homœopathy of all the glory they have derived from this flattering record. Nevertheless, he here repeats the assertion that, 'even after this rectification, enough remains to justify the inference that these tables substantiate the momentous fact, that all our ordinary curable diseases are cured [*i. e.* get well] in a fair proportion, under the homœopathic method of treatment.' (p. 242.) The expression 'fair

proportion' is very indefinite, and therefore improper; it was meant to have reference to the results obtained under the *more general or common* modes of treatment pursued by practitioners, and which it was one main object of the article to denounce. It never was stated, nor was it in any degree believed, that the results obtainable and obtained under homœopathic treatment were equally favorable with those obtainable and obtained under an *improved system* of eclectic treatment, which it was admitted, was now practised by many, and the more general extention of which among practitioners it was the great aim of the paper to promote.

The writer of the article, however, may now state that, since the publication of this paper, he has received from one of our most distinguished clinical physicians a corroboration of a part of Dr. Fleischmann's report which has been regarded with much scepticism. This gentleman reports that he has over and over again proved the complete curability of *pneumonia* when left to the powers of nature, in cases under his own immediate observation. These cases occurred in persons who had come into the hospital in so advanced a stage of the disease, and with symptoms so favorable, as not only to justify but to render imperative the propriety of not subjecting them to any formal treatment. And the result, as stated, was perfect recovery.

In dwelling so long, and expressing himself so strongly on the curative powers of nature, the design of the author of the article was to remove all rational doubt of the capacity of the *vis medicatrix* to effect all that was effected under the imaginary influence of homœopathy. And he had, also, the great collateral object in view of doing his best to stay the plagues of polypharmacy, medical heroism, and many other kinds of *hurtful* interference with the progress of disease, which he believed and believes to be widely diffused in practice, and which loudly demand the attention of all who wish well to the best interests of the medical profession and the public. And he still thinks that, with so legitimate a purpose, he made no statements that are not only justifiable but imperiously called for. Nothing, however, could be further from his intention than to advocate the leaving of diseases to nature, as a general rule, or as a rule at all; or to deny the great value and efficacy of remedies, whether drugs or other means, in the treatment of many of them. The whole of his argument and invective was against the *abuse*, not the rational and legitimate use of medicines and medical treatment. So far from wishing all diseases left entirely to nature, the author of

the article has the strongest conviction that none ought to be so left; and that there is not a single case, whatever be its nature, and whether curable or not, that will not be benefited, more or less, by the careful superintendence of the scientific physician. For a man thoroughly acquainted with diseases in all their relations there will always be enough to do in regulating, as far as practicable, the manifold circumstances and conditions amid which the sick are placed, even if the individual case should require little or no medicine in the form of drugs. It is a most mean and circumscribed view of therapeutics, to regard it as almost identical with the use of drugs. So far is this from being the case, that it may almost be said to be the perfection of medical treatment to cure diseases without drugs, or with the smallest possible amount of drugs; as it is now allowed to be the perfection of surgery, not to perform operations but to do away with their necessity. And yet what an almost boundless variety of things, exclusively of drugs, call for the notice, and attention, and consideration, and discrimination, and appreciation of the man who is held responsible for the proper management of a severe disease, whether acute or chronic? It would, indeed, be strange if a task like this were either facile or of slight importance; that it could be safely entrusted to any one not deeply versed in all the better parts of medical science; or that its well or ill performance were a matter of indifference to the patient.

Employment as a Cause of Scrofula.—In considering this question, Mr. Phillips devotes his principal attention to the litigated question of the influence of factory labor in developing scrofula. He has secured several valuable and extensive statistical returns from the manufacturing districts; the substance of which we subjoin in his own words:

"In Leeds, Dr. T. Smith very kindly examined, at my request, 1095 children, employed in different factories, and examined 548 children of the same class, not employed in factories. The result is, that those not employed in factories exhibited marks of scrofula in 8 per cent. more instances than those whose days are spent in such establishments. In Manchester and other great manufacturing towns, a similar result has been obtained by examination made at my request, and on so large a scale that there is every reason to feel confident in the opinion already expressed. Again, from his dispensary practice, Dr. Smith has made me the following report:—Of

916 persons, between 7 and 14, the children of factory operatives, but not themselves employed in factories, 365, or 39 per cent., had enlarged glands, and 75, or 8 per cent., had scars resulting from scrofula. Of 567 persons, all under 21, and employed in factories, 124, or 22 per cent., had scrofulous scars."

"Mr. Poyser, the intelligent surgeon of Winksworth, kindly examined for me the people employed in Mr. Arkwright's mills, and the following are the results which he communicated:—'persons examined, 798; total number having marks of scrofula, 29.'

· · · · · "I have obtained, through the kindness of Messrs. Horner and Saunders, the results of the examination of 6754 factory children, from which it appears that marks of scrofula were found in only 905 instances, or only 13½ per cent. The returns of Mr. Freday, Mr. Deavis, and that of other friends, who have kindly made a comparative examination of a large number of children, exhibit similar results; and they leave no doubt on my mind that children employed in factories are more free from scrofula than the average of children in England and Wales."—*Brit. and For. Med. Rev.*

Drug Shop of Galen. By Dr. Hamilton.—On the way to the Fever Hospital or the Hospital S. Giovanni, we passed through the Forum and among the numerous temples, palaces, triumphal arches, the amphitheatre and other colossal ruins which distinguish this portion of the ancient city, one humble spot, more than all others will remain for ever sacred in my memory; and to this spot alone did my feet repeatedly turn, as more than once I attempted to follow my guide and interest myself in the more stately ruins about me. You may smile at my peculiar romance, but if ever you visit Rome, go along the Forum to where stands upon the Via Sacra the ruins of the celebrated temple of Concord. Close by, in the days of Commodus, stood the drug shop of old Galen, for so he tells us himself. You will not see his sign, nor the illuminated colored bottles at the windows, for the shop was destroyed in a great conflagration, at the same time with the temple, but if you remember well the life of this excellent father and skilful physician, you will turn to mark the place and perhaps linger thereabouts for a while musing, and thinking possibly the old man will come to look after his broken bottles and his plasters and ointments which he prized so highly. For

to judge from the amount of broken walls and loose stones laying about, the fire may have occurred but yesterday.

Galen had enjoyed when he came to Rome in the year 165 the rare privilege of examining a couple of human skeletons at Alexandria, and furnished thus with an extraordinary knowledge of anatomy, he gave public lectures upon the subject to the citizens of Rome. He had thereby attained great celebrity both as a physician and surgeon, when the jealousy of rival physicians procured his banishment from the city, to which he did not return until recalled by Aurelius, after whose death he was made physician to the young and profligate Emperor Commodus. He lived long afterwards to enjoy his restoration to fame and fortune, having died at the advanced age of 70 years.—*Buffalo Med. Jour., Aug.* 1846.

Mode of conducting a pathological Analysis of the Blood.—In the present number of our Journal will be found an interesting article, by Dr. Buck of this city, on the blood in several cases of disease. Deeming it likely that some of our enterprising young friends may be stimulated, by Dr. B's, praiseworthy example, to institute similar inquiries, we transfer from the British and Foreign Medical Review directions for conducting such experiments.

1. A glass containing exactly 1000 grains of water is filled with blood directly from the vein: a glass stopper fitting hermetically, is then inserted (care being taken to remove all bubbles), and the specific gravity of the blood ascertained. By continually shaking it, the blood is kept fluid; it is then poured into a porcelain vessel; and evaporated, care being taken to wash the glass out with distilled water, and add the latter to the other. The quantity of solid residue is reduced to the proportions in 1000 grains of blood. 2. A glass two and a half ounce measure is filled with the blood immediately after the preceding, covered and set aside for eighteen hours. The clot is then carefully separated from the serum, and the weight of both ascertained. 3. The clot is now to be pressed through a linen cloth four inches square, and first the fibrine, then the fluid cruor collected. Each is thoroughly washed, freed from moisture, and weighed; they are then carefully dried, and again weighed. The results are to be re-

duced to the proportion in 1000 grains of blood. 4. The serum and clot are to be placed in a glass containing 360 grains of distilled water, and their specific gravity noted; then 250 grains of each, at the same temperature, are to be dried so long as they lose weight; the weight of the residuum is then to be reduced to the proportion in 1000 grains. There is loss of weight by pressure through the linen, but as this will happen in the same proportion in all instances, the general results are correct.

Dr. Zimmerman observes that this method will be more suitable to the practical physician than Andral and Gavarett's, because of its greater simplicity and easier performance, while the results are quite as correct as by the latter method.

New Remedy for Strangury.—The Editor of the Buffalo Medical Journal, referring to Dr. Gordon's remedy for Strangury, reported in this Journal, Nov. 1845, *an infusion of the honey bee*, says.

"The following new remedy will not strike the reader as a very prepossessing addition to the materia medica. We have been informed, however, by a practitioner of this city, that in a case of strangury in which the introduction of the catheter was attempted without success, the prescription was tried with immediate relief; and it was subsequently repeated daily, with the same results, until the occasion for its administration ceased."

Fruitfulness of Foreigners in Boston.—In Broad street, a low, water-edge street in Boston, in which Irish families are inconveniently thick, Mr. Shattuck, author of the Boston Census, says there are 2131 inhabitants—and that the births amount to *one in fifteen* of the whole population. This prodigious fecundity, he continues, is a most remarkable characteristic of our foreign population, and generally prevails throughout the city. It is, no doubt, one of the principal causes of the increase in the number of deaths among children under five years of age.—*Boston Med. and Surg. Jour.*

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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

OCTOBER, 1846.

ART. I.—*Thoughts on the Tongue as an element in Diagnosis.* By JOHN DAWSON, M.D., of Jamestown, Ohio.

Our intention in this paper is to offer some thoughts on the *Tongue as an Element of Diagnosis.* For centuries the appearances of this organ have been consulted as being of great utility in indicating the character of diseases general and local. The ancient authors, to whom we have had access, have left sufficient upon record to show the high estimation in which its different appearances were regarded by them. By the schools of Abernethy and Broussais the value of these morbid appearances have, perhaps, been overrated. Both of these eminent men, and their followers, regard the tongue as reflecting the exact morbid condition of the alimentary canal. As we shall subsequently see, this position will have to be classed among the things that are obsolete. It should not,

however, be supposed from this that the appearances of the tongue are not among the most available means we possess of arriving at a correct knowledge of many pathological states of the system. There are some things that may be known by their inspection, and there are other things that require the consultation of all the phenomena presented; and even then, much as the scope has been enlarged by the labor of modern times, it is still, in many instances, too limited for accurate diagnosis.

We may know, as a general rule, that the system is in a state of disease by the appearance of the tongue, but the *kind* and *character* of the disease can often only be ascertained by reference to other and more available signs.

In order to present some views on the subject before us, we will in the first place give the result of our own observations on the changes which the tongue has undergone in some of the diseases of the general system which we have been called upon to treat; also on the changes it has undergone in diseases of particular organs, tissues, &c.; and in the last place, offer some suggestions on the import of these several morbid appearances.

Among the general diseases giving rise to modifications in the appearance of the tongue, because of the frequency of its occurrence, we have paid the most attention to fever. All varieties of what are generally termed idiopathic fever have exhibited morbid appearances in greater or less perfection.

In the *synochus* fever of British and Continental writers, usually in this country termed *remittent*, the tongue has pretty constantly been more or less altered in appearance. Altogether the most constant change that we have observed has been in relation to its surface. A great proportion of the cases have shown this to be coated *white* at the beginning of the malady. After continuing for a while the coat has amounted to what is generally termed load. At the commencement the coat has usually been so light as not to cover up entirely the papillæ; and, as a consequence from this circumstance, not less, perhaps, than from a hypertrophied

condition, the papillæ have commonly exhibited a protruded appearance. Sometimes this has continued during the whole course of the complaint; but oftener, by the upper surface becoming loaded, the papillæ have been concealed. By a number of circumstances the white color has been varied. The continuance of the disorder for any length of time, by which the secretions from the mouth had become vitiated, have given rise to a dirty, and in some instances, a brownish appearance of the coat. When, also, at any period during the course the liver has been implicated it has happened that the coat or load partook more or less of the icteroid hue common to other parts of the system. This, however, has only been occasionally the case in what is called epidemic bilious fever; for I have witnessed a majority of cases of bilious fever during the past autumn when the complaint was epidemic, in which the diffusion of bilious matter through the system, so as to color the tongue, skin, and eyes, was not present. To some extent, we think, the coat of the tongue has been varied in color by the nature of the remote cause. A few cases were observed that from the beginning were characterized with a high grade of vascular excitement, urgent thirst, a hot and dry skin. In such the tongue, although very white at first, very soon became brown and dry, and in some instances black. Besides, the changes of color referable to the coat, the proper substance of the organ itself underwent some important modifications. In these cases characterized by strong febrile excitement, the tongue was pretty constantly red on its edges, under surface, and apex. Milder grades of excitement were attended with a pale, in some instances, a livid appearance, which continued during the whole course, unless inflammation of some important organ supervened. Great redness of the tongue at the commencement of the disease was usually found associated with a vigorous, robust system, and much functional energy; while the pale appearance was found in connexion with an effeminate condition of the general system or broken down constitution. The fever generally denominated remittent has pre-

vailed in this locality a few years past, and almost every case of which was attended with but a very mild grade of febrile excitement, scarcely any thirst, and not much heat or dryness of the skin. In such cases the tongue, at first, was nearly normal, perhaps paler than in health, and often continued in this condition during the course. Some of these cases were very protracted, and in the latter stages gave evidence of disease of the Peyerian glands. When this happened the tongue became redder, more granulated, and exhibited a tendency to dryness. The condition of the tongue in the complaint before us, so far as dryness or moisture was concerned, depended upon several circumstances. As soon as the malady was completely developed patients generally complained more or less of dryness in the mouth, tongue, and fauces. On inspection, nothing in the majority of cases could be observed adequate to account for such a sensation. From the beginning there were cases, nevertheless, in which there was a predisposition to visible dryness. We witnessed an example of this kind in a man aged about 40 years. He was taken in autumn with bilious fever, and was sick a few days before we saw him. On the first inspection his tongue was observed to be remarkably dry, somewhat chapped, and the coat on it had rather the color of mahogany. We looked upon this appearance in connexion with other phenomena present, as ominous of a fatal issue, and such proved to be the result. He was put on mercurials and other means addressed to what was supposed to be gastro-intestinal irritation of a high order, but without any success, for the dryness of the tongue and inside of the mouth increased, the brain became implicated, and he expired. An intelligent practitioner, a short time since, related to me a case supposed to be malignant intermittent, or what is more properly termed congestive fever, in which the tongue was remarkably dry. This case was put on mercurials, and under their use the tongue became moist and assumed a very favorable appearance. The patient, nevertheless, died in a state of profound coma shortly after the favorable alteration occurred.

We witnessed the case of a lady of middle age taken with the premonitory symptoms of bilious fever. On the third or fourth day of her illness we saw her for the first time. On its being examined, the tongue, at this period, was found to be extremely red, perfectly clean, as smooth on its upper surface as if it had been varnished, with considerable tendency to become dry. Associated with these phenomena there were tenderness in the epigastrium, thirst, and dysenteric discharges from the bowels. The tendency to dryness in this case continued for about twenty days, though the tongue at no time became chapped. The patient recovered under the use of medicines prescribed for an irritated condition of the bowels.

Alterations relating to the form of the tongue have so seldom been well defined in the complaint of which we have been speaking, that we can say but little concerning them. We are inclined to think that the organ has seldom, if ever been swollen, but in a few cases, on the contrary, rather contracted and pointed. It is true that we have seen a number of cases in which the organ appeared flabby and pale, but upon inquiry, such appearances could always be traced to some fault in the constitution—dyspepsia, or to something else having a tendency to impair the nutritive function.

Enlarged and elongated papillæ have been observed very frequently, at the commencement of the disease, protruding through the coat and imparting to the tongue the appearance elementary writers usually assign to it in scarlatina. As the disease progressed the papillæ on the surface became covered up by the coat, but those on the apex and edges continued to enlarge, giving rise to a granulated appearance. In pretty much all the cases characterized by this modification of the papillæ there was a great tendency to prostration. When not subdued very early, the affection became complicated with diarrhœa, epigastric tenderness, in some instances, meteorism, coma, and other typhoid symptoms.

The motions of the tongue have not been so strikingly characterized in this as in cases we have witnessed of typhus. When dry and chapped, patients have complained of being unable to control its motions; and when requested to protrude it have expressed their inability to do so. Very much debilitated with the continuance of the disease upon them for a considerable length of time, patients have complained of inability to protrude the tongue, and when insisted upon to pass it over the teeth for inspection, the organ appeared tremulous. We have noticed a few cases of this kind in which the organ from lying against the teeth had become indented. We will now give a sketch of our observations of the

Condition of the tongue in epidemic typhus fever.—This fever has prevailed several times in this region as an epidemic. In most of the cases, the tongue, during the period of incubation, which generally lasted from one to two weeks, presented rather an exsanguineous appearance, was slightly coated, and attended with no perceivable change of form. As the disease progressed it was usual for the color to change to a brighter red, for the coat to increase in thickness, and also for the coat to become discolored, becoming brown in some cases, in others almost black. As a general rule the papillæ were more or less enlarged, protruding through the coat when it was thin, and giving rise to a granulated appearance on the edges and apex. When the complaint was of considerable duration, the coat increased in thickness to the degree generally entitled load. This in some instances continued during the whole period of the complaint; in other instances, by the epithelium becoming detached, it sloughed off in flakes leaving the surface under it red and very tender. The tendency to dryness was exhibited in but very few cases; and invariably these were characterized by evidence of a high degree of gastric and intestinal irritation. Commonly the motions of the tongue were unimpaired. In a few cases, very much debilitated by the great duration of

the malady, patients were inclined to speak only a word or two at a time, and with long intervals between them; and when asked to protrude the tongue, they would express an inability to do so. On witnessing two or three epidemics of typhus, we saw no case, in which from the commencement, the tongue was black. This phenomenon occurred only in the advanced stages and like persistent dryness, it was generally followed by a fatal issue.

The condition of the tongue in diseases strictly inflammatory has of late been made the subject of extensive clinical research. This class, comprehensive enough in the estimation of some to supersede the necessity of all other branches of nomenclature, is characterized with such a diversity in the character of the symptoms generally, and also in the morbid appearances of the tongue, that it is very difficult to give the condition of this organ with any degree of precision.

Inflammation resulting from fractures and extensive injuries of the soft parts, we have constantly observed, have been attended with a white coat. While this phenomenon has universally been present, the appearances in other respects have varied according to the intensity of the affection, nature of the organ or tissue involved, diathesis of the patient, &c.

Injuries of the osseous tissues and soft parts contiguous, when extensive, have, without a single exception, been immediately followed with a coated tongue, the coat always very white at first. Attended with a high fever, the tongue in some instances has been disposed to dryness, and in cases of slow recovery, to a red or granulated state of its edges.

Acute inflammation of any of the more important organs of the body, as far as we have observed, has been connected with a morbid state of the tongue, which varied according to circumstances. As a general rule, during the first stages, the tongue was coated; after this period, if the complaint proved stubborn, other changes occurred, such as the upper surface becoming loaded, brown, or perhaps dry and chapped.

We observed in a case of inflammation of the mucous surface of the bowels, proceeding as we supposed from malaria,

that the tongue after being coated turned brown and ultimately became dry and almost black. We have also witnessed an acute inflammation of the mucous surface of the stomach associated with delirium tremens, that had associated with it dryness of the tongue and entire inside of the mouth. Both of these cases terminated fatally.

In subacute or chronic inflammation, the tongue, as in the acute form of the disease, had been generally coated, sometimes pale, and we have noticed a few cases in which it was flabby during the whole course of the complaint. Protrusion of the papillæ has been of no unfrequent occurrence here; and we have seen some cases in which the organ was fissured and lobulated.

To a considerable extent the tongue has been varied by the duration of the inflammatory attack. In cases where the affection ran its course rapidly the tongue has exhibited a tendency to become dry and chapped. On the contrary, in cases of a protracted character, it has been more apt to become loaded, foul, and more or less discolored. By the nature of the tissue or organ affected with inflammatory action, the appearances have been modified. In glossitis we are told by elementary writers that the tongue soon becomes red, hot, and dry. Its form is almost immediately altered, being at times so much hypertrophied as to fill up the entire cavity of the mouth.

As we witnessed a case of glossitis in connexion with epidemic erysipelas that was strongly characterized, we will transcribe a brief account of it from the Western Journal of Medicine and Surgery in which it was published in August last. The subject of it was a man of strong constitution, plethoric habit, and 46 years of age. On the 4th of May last he was taken with the symptoms of epidemic erysipelas; on the 8th, for the first time, he commenced complaining of his tonge. It presented on examination at this period a healthy appearance, except that it was slightly coated and the papillæ somewhat enlarged. On the 9th it was painful, and considerably enlarged, though not altered in color. At this time

the secretions from it and the salivary glands, were abundant. It continued to enlarge on the 10th, and on the 11th it had attained a size sufficient to fill the entire cavity of the mouth, and protruded for some distance between the teeth, from which circumstance the patient's jaws were forced apart, and he became unable to articulate. At this period its color was redder than formerly, though it still continued moist, and its upper surface was very heavily loaded. It had been scarified on the 9th, and from these places there issued a thick dense layer of coagulable lymph or false membrane. On the 13th, the swelling began to subside, and the surface to clean off. Although the complaint with which this condition of the tongue was connected, was provincially termed black-tongue we saw but this one instance in which the organ was prominently affected. Nor have our researches, concerning the observations of others, justified those revolting rumors about the prevalence of black-tongue with which our country twelve months ago was so rife. The tongue in the complaint of which we have been speaking was usually white at the commencement, becoming, as the complaint progressed, loaded, foul, or discolored, according to the severity, duration, &c.; and in one case that we attended it was found to be dry on the first day of the disease.

Inflammation of the dermoid tissue, such for example as obtains in exanthematous affections, has presented some peculiarities that deserve a passing notice. In scarlatina the tongue has been redder than in most other complaints, generally coated, and in perhaps one-half of the cases which we have seen there has been an elongation of the papillæ, and a protrusion of them through the coat. This latter condition, we are aware, has been given by most elementary writers as a diagnostic of scarlatina. In this respect, however, it is entitled to no confidence; for it is a very common appearance in children, it matters not with what disease they are affected; and it is also present in a number of diseases to which adults are subject besides scarlatina. Last season we

witnessed a case of scarlatina in which the tongue was perfectly clean, of a fiery red color, and as smooth as if it had been glazed, with some tendency to dryness. At the commencement, this condition was present, and continued until convalescence, without being associated with any lesion more than what is common to scarlatina, except a slight diarrhœa. The tongue in rubeola has exhibited nothing interesting or peculiar. Generally it was furred at first, followed by other appearances corresponding to the intensity, duration, &c., of the complaint.

The serous and mucous membranes, when the seat of inflammation, have been attended with nothing entitled to the consideration of a characteristic. A coated tongue has usually been present in both classes of disease, followed by other phenomena corresponding to the grade of excitement, form of the complaint, or idiosyncrasy of the patient. In cases of acute inflammation of the meninges, of the peritoneum, or of the pleura, the tongue has been disposed to become loaded, or dry. The same has been true of the state of this organ in acute inflammation of the mucous membranes. In chronic inflammation of the alimentary canal giving rise to diarrhœa, dyspepsia, &c., the tongue has been often pale, flabby, sometimes broader than natural, and always more or less coated. About the same condition has attended it in the same form of disease in the serous membranes.

Chlorosis, as far as we have observed it, has been attended with certain modifications of the tongue that are, perhaps, characteristic. Of the pallid appearance of the general complexion it has very intimately partaken. Always indeed on witnessing the exsanguineous state of the countenance, the same was observable on the tongue. Not constantly, but pretty frequently, in addition to the paleness there have also been tumefactions, occasionally fissures; once in a while the organ has been indented. It has not been common to see it much loaded, still it has been usually coated. In many cases

the papillæ have been almost entirely obliterated, giving to the organ an unnaturally smooth appearance.

In diseases of the nervous system the tongue has varied but little from what we have described as being its condition in chlorosis. Perhaps the only real difference was that the phenomena in the latter disease were more permanently and decidedly marked. A thin coat, with paleness, connected at times with a flabby, indented, fissured, or sulcated condition, has been usually present as characteristics of this class of diseases. Persons laboring under what might be termed a nervous diathesis, have had these phenomena most strongly marked.

Having given briefly our experience in some of the more important classes of diseases we will now offer some few thoughts on

The import of the different appearances of the Tongue.—Much of the confidence reposed in the different appearances of the tongue, as indicative of certain kinds or grades of diseased action is, by the intelligent part of the profession, about to be suspended. It has been well settled by modern research, that the schools of Broussais and Abernethy are wrong in stating that the tongue will point out the exact state of the alimentary canal. Failing here, where from the similarity of the tissues, and intimate sympathetic relations, it could be most reasonably expected to reflect every change that might occur, of course, its indications concerning diseased actions more remote, and less intimately connected with it, must be regarded as being exceedingly equivocal. It may therefore be taken as a settled position, that, although the state of the tongue is entitled to great consideration as an index to the condition of the general system, yet in order to be entitled to confidence in making out the character or kind of disease, its appearances must coincide with other symptoms.

Before attempting to discuss the import of the different morbid appearances, it will, perhaps, not be out of place to

notice the fact that a healthy condition of the organ may exist, and yet, certain parts of the system be the seat of serious disease. The connexion between the state of the tongue, and that of the stomach, has been lately made the subject of extensive clinical observation by Andral and other eminent pathologists. Andral tells us that "we may have a diseased stomach with a healthful condition of the tongue." Speaking of chronic gastritis he says—"The tongue in this affection is far from presenting always the same appearance. First there is a certain number of cases in which it does not at all deviate from its normal state; and what is remarkable this happens precisely in those cases where the stomach has become the seat of the most serious organic alterations. It is principally in fact in cases of cancerous degeneration of the stomach that we have had an opportunity of observing this continuance of the tongue in its normal state." Louis, in giving an account of the gastritis which accompanies fever, states that in many of the worst cases the tongue was natural.

On the contrary, it should be remembered that we may have a diseased condition of the tongue, or rather an appearance of the tongue indicative of disease general, or local, when at the same time the general health is but little or perhaps not at all deranged. In relation to this point, Andral tells us, that "we may have a diseased appearance of the tongue with a healthful state of the stomach." In his last edition of his own and Stokes's Lectures on the Practice of Medicine, Dr. Bell alludes to the case of a person that he knew, who, for twenty-five years never had an entirely clean tongue. On waking every morning this individual would find his tongue dry, fevered, yellow, and often brown; and sometimes giving out a little blood mixed with saliva. Occasionally it resembled that of a patient in the advanced stage of typhoid fever. Yet notwithstanding these appearances the individual "was seldom laid up by sickness." Billings proposes a caution against mistaking a white appearance of

Medical Gallery.—The Medico-Chirurgical Review, for July, contains a notice of a work by Reveillé-Parise, one of the chapters of which presents, among many others, a sketch of the life and character of the great French surgeon DUPUYTREN, which we are sure will be read with pleasure.

The determined and overbearing character of this celebrated surgeon manifested itself from the very commencement of his career. When, at seventeen years of age, he was appointed one of the Demonstrators at l'Ecole de Medicine, his poverty was so great that he was obliged to mend his own clothes. So far from despairing, however, he had such a complete conviction of his own superiority, and presentiment of its successful exertion, that he had already in view the surgical dictatorship which he afterwards attained. The renown of Bichat was a source of continual vexation to him, and upon hearing of his death, he exclaimed, "I begin to breathe." From this period, too, his reputation began to increase rapidly.

Knowledge, judgment, indefatigable industry, untiring patience, address, energy, and resolution, were all employed by him in the manner characteristic of a man who is determined to succeed—one who is never at ease but at the head of the crowd, who proceeds straight to the end in view, in spite of all the obstacles and difficulties of rivalry. This is in fact the period at which Dupuytren really worked, when he amassed most of his scientific labors, although it was long before he reached his eventual eminence. There was then to be observed in him the decided desire of increasing the riches of science, of extending its limits, united with that burning ambition which destroys rest, and which is the foundation of that strength which characterizes the man impatient of all control and jealous of every influence.

His avowed determination in 1812, to obtain the professorship held by Sabatier in l'Ecole de Medicine raised him numerous enemies and opponents; but he triumphed over all, in spite of an evident desire of the judges to favor some of these. Nothing now impeded his progress.

Arrived at the apogee of his renown, the genius of Dupuytren was quite equal to his position; and he was enabled to struggle with the torrent of occupations by which he was surrounded. There was indeed something really gigantic in that intelligence which provided for everything by its pro-

digious activity, indefatigable industry, determined arduor, and by a sort of ubiquity which allowed him to accomplish as well as to desire everything. For twenty years he was always one of the earliest at the Hôtel Dieu, however inclement the season. He passed more than five hours there in the severest bodily and mental exertion. No sooner had he left these, than new duties and crowds of patients called him to all parts. * * * * * Whoever wishes to give unrestricted praise to Dupuytren, must consider him in his professor's chair. There he triumphed—there he excelled. It was a remarkable thing to hear this illustrious surgeon delivering his beautiful lectures on Clinical Surgery, amidst three or four hundred silent and attentive pupils. With what order and method he enchained the attention of his auditors! how accomplished was he in instructing them, exhibiting the light of evidence with a skilful and vigorous logic, and inculcating good and sound information! His clear, calm, strong delivery, lucid and expressive, fluent, easy without prolixity, elegant without effort, always fortified by things and facts; the clearness of his views; his rare talent for exposition and deduction; his astonishing facility in defining, classifying, and expressing his ideas, in rendering objects sensible and evident, and in arresting, fixing, and directing the attention, gave to his lectures a singular attraction. No idle detail, declamation, or ornament was there: all was clear, precise, intelligible; all tended to fact, to its object, and to instruction. * * * * * * Nevertheless, the pupils sometimes reproached the professor with dwelling only with predilection upon those cases in which success had crowned his efforts, and disguising his reverses with skill. Another, and perhaps better-founded, reproach is, that this illustrious professor never quoted any one else, and French surgeons still less than any. To speak the truth, he had a marked and exclusive disdain for all that had not proceeded from himself; and this indifference, or rather scepticism for everything and everybody, when the talent of his rivals was in question, had its root in his naturally haughty character—completely despising the opinions of others—those of the past as useless, and those of the present as inferior.

What I have said of the professor exhibits his qualities as a surgeon. It is allowed by all that Dupuytren was the most remarkable man in the profession of his epoch. Few have possessed that vast and rare assemblage of qualities which constitute a great surgeon. He had especially an ad-

mirable strength of judgment, which rendered his diagnosis so true and affirmatory, that it struck every one with astonishment. Moreover, in the observation and application of precepts, there was an exactness of analysis, a certainty of practical good sense, and a depth of examination, which are certainly rare. Although bold, without the least trace of pusillanimity, he never operated until the last moment, when he was certain that this furnished the last resource of art. * * * * * * Arrived at the height of his reputation, Dupuytren desired to be not the chief but the tyrant of French surgery; and the most exclusive and bitter individuality dominated his entire being, dictated his thoughts and governed his actions. So, in his social relations, he much preferred unexacting friendships and passive unconditional devotion.

Justice obliges us to add, that the high faculties of this great surgeon were not those which may be termed transmissible. He had not a genius for discovery, but for application. This leaves but little harvest for succeeding generations to reap. From such great talent and renown one would expect an imposing succession of works which would add to the acquirements of science, and long leave their traces there. Alas! what remains to us of Dupuytren, what his biographers will carefully collect, is not to be compared with that which we had a right to hope for. It is this which has given rise to the saying that, after all, this great man was only a famous man. * * * * * * In studying this celebrated surgeon with care, we may, to a certain extent, explain this defect of accordance between his labors and talent, and the insignificant amount of results. He possessed much more of the talent for teaching, and all that required the aid of speech and action, than for slow, continuous labor. Next, he had embraced the whole circle of surgery. He was not one of those who devote their lives to the production and realization of an idea. He wished to know and distinguish himself in every part of the profession, whence it resulted that he only contributed here and there to the progress of some portions of surgery. Add to this, that desirous of becoming the first in all, he wished to accomplish this by the aid of a large fortune, and amassing this occupied him incessantly, especially as this was a natural bent of his disposition.

A lofty pride seemed to have been his distinguishing feature, which accompanied him in every act and word, and the inordinate ambition hence arising doubtless was one of the causes of his merit and renown. To serve his ambition,

however, he would condescend to almost any meanness and duplicity, so as to impart to his character, observed for any length of time, the most strange contrasts. When his object was to be answered by it, it was painful to see "the insinuating air, the wheedling suppleness of so proud and irritable a man." He was surrounded by flatterers, but he was also exceedingly susceptible to the attacks and criticisms his own disdainful conduct provoked.

Criticism irritated him as an injury, while blame tormented him as an intolerable novelty. Admirers and acquaintances he had, but few or no friends, and found the surgical crown, like others, was not without its thorns. His genius, talent, and dignities were envied, but no one was ignorant that beneath this brilliant surface were anguish and chagrin. He was looked upon as a sort of power whom one must prevent from becoming an enemy, but with the impossibility of ever becoming his friend. Every one stretched a hand to him, but no one shook his cordially. He was at once admired, feared, and blamed—a singular destiny for a man of such incontestible superiority. Let us add that, like other proud, susceptible, and irritable beings, he was unequal and changeable. Literally, to use the vulgar expression, one did not know which end to lay hold of him by. He did good and evil by starts and caprice. If, in some cases, he might be taxed with falsehood and harshness, in others he exhibited an exemplary loyalty and unheard of disinterestedness.

* * * * * * *

With all his affectation of simplicity he coveted scientific distinctions, and was especially fond of his title of *Baron.* Probably from the obstacles to his progress which he found his poverty to offer in early life, he acquired an insatiable love for money, and became immensely rich. Having heard that Astley Cooper possessessed six millions of francs he would never rest until he had accumulated the like sum. To this end he sacrificed all the the time that might have been devoted to the advancement of science; and even his Clinical Lectures would not have been preserved but for the care of some of the auditors. Dupuytren himself published nothing, except a wretched letter in the newspapers of 1832, announcing decoction of poppy-heads a cure for the cholera! His riches, however, brought no satisfaction, but only the desire to add to them; he was not organized for happiness and never possessed it. He died aged 58. His will, M. Parise says, does high honor to him, but he does not state its dispositions.

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LOUISVILLE, SEPTEMBER 1, 1846.

FOREIGN CORRESPONDENCE.

We would direct the attention of our readers to the second letter, contained in this number, of our foreign correspondent, Dr. David W. Yandell, a graduate of the University of Louisville, and the son of one of our collaborators. We have read it with pleasure, and think that all who turn to it will peruse it with interest. The author is evidently wide awake to the novel medical world, to which he has transferred himself from the backwoods, and is laudably disposed to make his observations available to the friends and fellow-students he has left behind. Our chief object in the present notice, however, is to say that the author will spend a couple of years in the great *emporia* of medical science, in England, Scotland, Ireland, France, and Germany, and that we have engaged him to furnish us regularly with communications for the Journal. Thus we may venture to promise one for every number, and cannot doubt, that they will become more and more interesting, in proportion as his opportunities for observation multiply. In this way we shall be able to put our readers in possession of the earliest European intelligence, including many things which might not reach them through the journals from that country. D.

HEALTH OF LOUISVILLE.

The Sexton reported the interments in Louisville during the last two weeks in July to have been adults 13, infants 20; and during the firt two weeks of August, adults 12, infants 13; total 57 in the month. Considering that this is in the sickly season, it must be admitted that the report exhibits an excellent state of health in this city. Much sickness has prevailed in certain localities—in all the suburbs, in fact—but it has been sickness of a mild form, chiefly intermittent fever. Cholera infantum has been prevalent, but the slight mortality among children proves that it has not been malignant. A full proportion of the infants died of convulsions, an unusual tendency to which we have remarked in children this season.

The convulsions were tetanic in their character. Can there be any connexion between them and the tropical weather, for which the summer just ended has been remarkable? It is not oftener than once in twenty years that such a season as the past is known in our latitude. The heat has been tropical, and the rains have fallen as they do in tropical regions. What will be the consequence of this high temperature and these floods of rain to the health of the city, in the two warm months yet to come, it is impossible to say. In former years, while the city was yet environed by extensive ponds, and large collections of putrid water stood in its streets, the most fatal fevers would have been expected; but Louisville has been now long exempt from such visitations, and, up the present date, it is certain that the extreme heat of the sun and the deluges of rain have not affected the salubrity of our atmosphere.

LOUISVILLE LAW SCHOOL.

The trustees of the Louisville University have wisely resolved to organize a Law Department, the professorships in which have been created and filled. The following gentlemen have been elected, to wit:

Hon. Henry Pirtle, LL.D., Professor of Constitutional Law, Equity and Equity Pleadings, and Commercial Law.

Garnet Duncan, Esq., Professor of the Science of Law, including the Common Law and its History, and the Laws of Nations.

Preston S. Loughborough, Esq., Professor of the Law of Real

Property, the Practice of Law, including Actions, Pleadings, and Evidence, and the Criminal Law.

These gentlemen are well known in all parts of our country as among the most able and learned jurists in our Commowealth, famed for the ability of its bar; and we congratulate our young countrymen of the law that the services of such teachers are henceforth to be at their command. Aside from their experience and legal erudition, the examples of dignity, probity, and purity afforded by the lives of these eminent men will be of incalculable value to their pupils. We predict for the Law department of the University of Louisville a rapid rise and prosperous career. The newly elected professors have made arrangements for opening the department in November, and a full course of lectures will be delivered during the approaching winter.

LOUISVILLE SUMMER SCHOOL.

The lectures in the Louisville Summer School of Medicine will commence on the first Monday in September and continue to the end of October. During the latter month the dissecting rooms will be open under the direction of the Demonstrator of Anatomy, Dr. Bayless. Sudents of medicine are earnestly advised to come on and embrace the admirable opportunity afforded by this arrangement for making themselves practical anatomists. Dr. Bayless conducts his department with singular success; his tables are always well supplied, and he has always large classes. No scarcity of material has ever been complained of by those who have taken his ticket, and the policy of the school is to encourage dissections. By an ordinance lately adopted, every student must take the dissecting ticket one season before he can present himself for his degree. The effect of the fall course of lectures and of throwing open the anatomical rooms to students in October, is to lengthen the lecture term more than a month. Students will see the advantage of this.

Errata.—In our last number, at page 141, in the formula for iodide of iron pills, "*iodide of*" occurs where it should be iodine. In the present number Mr. Walshe's name is incorrectly printed "Walsh."

FACTS FROM CORRESPONDENTS.

We make the following extracts from a letter for which we are indebted to R. A. Westbrook, M.D., of Oakland, Tennessee.

We have had a healthy spring and summer. The spring was cold and wet, and for a time bowel complaints of a mild character prevailed. At this time scarlatina may be said to be endemic in this region, and sporadic cases have been occurring for many weeks; the cases that have fallen in my way have been mild and easily controlled by remedial treatment, but a number have assumed a malignant type and terminated speedily in death. This, I believe, is characteristic of scarlet fever; in one instance so mild as to require no treatment; in another resisting all remedies, and terminating fatally in a few hours. Cholera is scarcely more rapid in its march than some cases of scarlatina; and again physicians will meet with a long succession of mild cases, and practise a whole season without losing a patient with this fever. Remittent fever made its appearance early in the summer and attained, during a spell of hot, dry weather, considerable prevalence, but we had several drenching rains a fortnight since, by which it has been checked. I do not learn that any new cases have occurred since. During all the season we have had occasional cases of intermittent fever. I remarked in the spring a tendency in the submaxillary glands to become inflamed and swollen from any slight injury of the system, and often without any assignable cause. Some weeks ago a catarrhal fever prevailed among children, and a number of cases proved fatal under the management of steam-doctors. One practitioner of this school lost three patients with this affection in eleven hours. He confined them to heated rooms, steamed them, and gave them lobelia till they died. He remarked to the friends that the "children could take as much lobelia as men." No other cases of this complaint had an unfavorable issue in this neighborhood, and the result in these, I suppose, is attributable to the barbarous practice pursued.

August 4th, 1846.

the tongue for an evidence of disease. Persons, he says, often on rising in the morning, look at their tongue, and finding it white, conclude that they are bilious and take physic. Such conclusions he assures us are generally erroneous; and the giving of a "*peristaltic persuader*" under such circumstances, he regards as being entirely unnecessary.

Lately we have examined the tongues of a number of persons in a state of health, and we found the appearances to be exceedingly diversified. In the case of a lady between 45 and 50 years of age, whose general health has always been remarkably good, and who was well at the time we made the examination, the tongue was as red as it usually is in acute gastritis, rather small, pointed, and very much fissured. In two other cases where the persons were in health the papillæ were very much enlarged, particularly at the upper ends of them, where they were of rather an umbelliferous form. In other instances the tongue was lobulated, sulcated, &c. Several cases we saw in which it was habitually furred without the conjunction of any inconvenience, other than that of a depraved taste of mornings.

It being now understood that serious disease may exist, of even the stomach itself, without being at all indicated by the tongue; and that morbid appearances of the tongue may coexist with a physiological exercise of the various functions, we will be better prepared to estimate the import of the different morbid appearances.

What does a white appearance of the tongue indicate? All know that in health the upper surface of the tongue is not of a bright red color. The tips of the villi being less injected with blood, than the lower parts, the tongue as a consequence, on its upper surface, is much paler than either the edges, tip, or under surface. This existing in conjunction with chlorosis might give rise to opinions that would be erroneous. Conjoined also with the exsanguineous condition common to some dyspeptics, or to females laboring under a nervous dia-

thesis, it might be calculated to mislead; for in both cases it would be partly the result of a physiological cause. According to the time of day at which it is examined the tongue varies in appearance; its upper surface is much whiter early in the morning than after breakfast, at noon than after dinner, and at the end of a long fast than after the stomach has been filled. In part, this results from the motion to which the organ is subjected in mastication and deglutition, by which a greater proportion of blood is invited into its substance; and also from the intimate sympathy there is between the tongue and stomach. A practice of taking cathartic medicines, epsom salts, aperient pills, and the like, obtains with some persons to an extent that creates a demand in the system for their habitual use. Of such persons the tongues, in nine cases out of ten, are coated white. Such an appearance is no evidence of disease, further than what might be supposed to result from the medicines acting on or irritating the mucous surface of the bowels.

After taking these things into consideration the white appearance of the tongue may be taken as an evidence that the system is some way or other out of order; and in connexion with other signs it will aid materially in making out the nature of the complaint. A very white appearance of the coat denotes that the disease is of recent origin, acute, and has rapidly invaded the system. This appearance is present in the commencement of acute inflammation, particularly inflammation of the bowels, in synochus fever of a high grade of arterial excitement; and in the epidemic erysipelas with which our country was recently visited; the coat in all the acute cases was at first of rather a snow-white appearance. A sallow white coat indicates a different grade of morbid excitement. It is the appearance most generally met with in typhus, dyspepsia, hypochondriasis, nervous diseases, chlorosis, and other diseases that consume considerable time in the period of incubation. Formed gradually, its color is modified to some extent by the low grade of arterial excitement in the tongue and by the vitiated secretions of the mouth.

There is another modification of the white coat which is generally regarded as a diagnostic of biliary derangement. I allude to the yellowish white found in jaundice, in what is generally called bilious fevers, and in yellow fever. When this appearance is present in conjunction with other symptoms, it may be of some importance in assisting to ferret out the condition of the liver; but in most of the cases that we witnessed of a late epidemic of bilious or malarial fever. the tongue exhibited no such phenomenon. The brown tongue is a modification of the white altered by the long continued presence of bilious matter, and by the depraved secretions of the mouth. Its presence, when connected with a tendency to dryness, as far as we have observed it, may be taken as an evidence that the disease, whatever be its character, has been of considerable duration, and is persistent in its course. Often the white coat accumulates to an extent that entitles it to the name of load. The import of a loaded tongue can seldom ever be misunderstood. To be formed it requires a considerable length of time, and of course, is evidence that the disease has been of considerable duration.

What do the different colors of the tongue indicate? Always it should be remembered, that the natural color of the tongue, as previously remarked, varies in different individuals. In those of a sanguine temperament, enjoying vigorous, robust health, it could not be expected to be of the same hue as in one of a lymphatic temperament, with a weak constitution and effeminate habits. In the former it would exhibit a very red healthy appearance; in the latter it would most likely be pale, blue, exsanguineous. Besides, any one who will take the trouble to examine a number of healthy tongues will find the shades of color as much diversified as are the complexions of the individuals examined. When not the result of the circumstances to which we have alluded, a red tongue may be regarded as a sign of disease general or local. In acute inflammation of the stomach or bowels, in high grades of febrile excitement, idiopathic or symptomatic, we

generally have, in all parts of the tongue not covered with the coat, a very red appearance. As a consequence, this appearance, when coexisting with the original onset of the malady, or making its appearance during the course, is generally, and we believe in the majority of cases correctly, interpreted to signify, either primary acute disease of the stomach and bowels, or disease of some organ between which and the bowels there is a very intimate relation. A very red tongue, without being accompanied with any coat or load, would seem to augur the worst issue. Such however has not been verified by our experience. In all the instances of such a tongue, coming under our observation, the sequel of the complaint has been characterized by consequences of no worse character than attended a red tongue with coat or load. The tongue may be red with a clean smooth appearance, as though it were glazed, or it may be red and granulated. The former we have noticed as an original appearance in scarlatina and typhus, but it is oftener developed during the progress of the disease by some circumstance that removes the coat; the latter is sometimes present in chronic inflammation of the stomach, and we have witnessed it in some complaints in which the stomach was apparently not much in fault. It is probable that this granulated appearance is occasioned by the injection and hypertrophy of the papillæ on the edges and apex, the place where they are most generally observed. That both these appearances point to similar conditions of the bowels is a position that is generally proved by autopsical examinations. The red smooth tongue with a persisting tendency to dryness is always of serious import, and often coincides with a fatal issue. In relation to the granulations, Andral in his Medical Clinic, remarks, "they do not always remain in the same state: at times they are very prominent, very red and very numerous; at other times they are less apparent, paler, and fewer in number. Their development is always in the direct ratio of the intensity of the gastric irritation. Among the persons who present this particular state of the tongue, some have a stomach habitually sick; others have what is called a delicate

or irritable stomach; they are forced to confine themselves to a certain regimen; they cannot without great inconvenience allow themselves the least excess in eating or drinking. This state of the tongue appeared to us more common in the gastric irritations of young persons than in those of persons more advanced in life. It is often observed in young females with a pale complexion and a weak constitution, whose stomach is habitually deranged; its existence may prevent one from considering and treating as nervous the symptoms they present on the part of the digestive organs. We have known several families, all the children of which presented this unusual development of the papillæ towards the apex of the tongue; in all there were at the same time other signs of gastric irritation. In one of these families the mother and her four daughters presented this particular appearance of the tongue, and all five had a very delicate stomach."

A blue or purplish state of the tongue is most likely caused by a feeble circulation. It is seldom, if ever, found in acute diseases where the circulation transcends the normal standard. In diseases of the heart with great lividity of the prolabium and countenance, the tongue and internal mouth partake of the general discoloration (Hall). The same is true of other complaints in which the nervous energy that keeps the heart performing its healthy function is interrupted or partially suspended, as for example in paralysis, several diseases of the nervous system, chlorosis, in purpura hemorrhagica, and in some forms of dyspepsia. This condition we have also witnessed in angina maligna, and in some cases of typhus. In the general, it should be regarded as indicating either primary disease of the heart, or an impaired state of the circulation from other causes. In angina maligna we have thought it due principally to defluxions in the vessels of the throat, which prevented the return of blood from the tongue to the heart.

Paleness of the tongue is usually, we believe, connected

with lesions of the function of nutrition. Like some other of the phenomena, it is associated with a similar appearance of the general complexion. The tubercular disease when uncomplicated with gastric irritation—scrofula, chlorosis, and dyspepsia, resulting from atony of the stomach, together with several forms of hysteria, are most generally attended with a pale tongue, at times translucent at its edges, and occasionally swollen. When excessive, hemorrhage also gives rise to the same appearance. Paleness therefore may be regarded as reflecting among other things primary trouble in the assimilative functions, disordered hæmatosis, or waste of blood.

What do the alterations in the form of the tongue indicate? The tongue may be increased much beyond its natural size, or it may be diminished, lobulated, fissured, chapped, or indented. An enlarged or hypertrophied state may be connected with an exalted condition of the principal functions of life, or it may be associated with a condition exactly the reverse. In glossitis the tongue is often very much enlarged. The same is perhaps true in cases of variola and scarlatina. Enlarged from causes of this character it is always very red; and there are febrile excitement of a high grade, and other urgent symptoms present. Cachexia, from deranged digestion, disordered liver, or a dropsical diathesis, gives rise to a swollen pale state of the the tongue. In chlorosis this state is characteristic, and the most frequently developed. Here, besides being pale, it is indented, sometimes sulcated, with an almost constant tendency to tumefaction. As a general rule, there is no fever associated with this condition. It is, no doubt, caused by the presence of morbid fluids in its substance, something similar to the tumefaction that takes place in the face and extremities in certain morbid conditions of the system, and may be looked upon as an evidence that the complaint has been of great duration, for it requires considerable time for its formation. Indeed, the physician, on inspecting a tongue of this description, is often able to surprise

his patient by the accuracy with which he can detail the history and symptoms pertaining to the case. A tongue less than the natural size we have so seldom witnessed that the class of diseases with which it is most constantly connected, as well as its indications, are, to us, matters more or less surrounded with doubt. About the same may be said of the lobulated modification of the form of the tongue; we have, however, never seen it except in persons advanced in life. It is caused perhaps partly by a shrinking of the substance of the muscles of the tongue, by which the surface is corrugated or formed into lobes resembling those of the cerebellum. An indented tongue always indicates great prostration and a want of cohesive force in the solids. It is found in the advanced stage of adynamic diseases, existing in conjunction with paleness and tumidity. What the import of a fissured tongue is, remains to be noticed. It is observed in sickness and in health, in the delicate and in the robust, in connexion with every variety of temperament, and in diseases entirely opposite in their nature. It is, however, like the lobulated appearance, peculiar to advanced life. The fissures may be few in number, and traversing the surface in a particular direction, or they may be very numerous, cutting it up into various forms. Existing in conjunction with an acute disease that produces a tendency to dryness, the fissured appearance would impart to the tongue a chapped appearance, that might be delusive, for it would import a high degree of gastric or intestinal irritation that perhaps would not be present.

Dryness of the tongue must always be regarded as a very grave phenomenon. Sometimes it is present at the commencement of a disease; oftener not until sometime afterwards. It is generally observed in connexion with a sthenic diathesis, inflammation, fever, local injuries, &c. It is liable to occur in inflammation of most of the organs and tissues, particularly in inflammation of the alimentary canal, whether primary or as the result of diseased action in other parts of the system. Usually the action of the heart and ar-

teries is above the healthy standard. Perhaps this is always the case except where the dryness supervenes upon a system worn down by disease or just before *articulo mortis.* A dry state of the tongue is always associated with redness; sometimes the surface is clean, at other times loaded and chapped, once in a while black. The degree of dryness varies according to the stage of excitement. In fever it is always greatest during the exacerbation; and indeed it frequently happens that this is the only period in the complaint in which the tendency to dryness is at all observable.—Again, dryness is apt to be present in the advanced stage of most diseases that terminate fatally. Evidently dryness originates from a suspended state of the secretions proper to the tongue and inside of the mouth. In the majority of cases it is a measure of the deranged condition of the secretions generally; and, although not always the case, it is pretty strong evidence of gastro-intestinal irritation. Very true it is that we may have a tendency to dryness of the tongue from some affection of the organ itself, or from disease of the mucous membrane lining the mouth, without much constitutional disturbance. And it is well known that we may have lesions of a very severe character in the stomach or intestines without giving rise to any abnormal appearance at all in the tongue, much less to dryness. Still we regard these as being exceptions to a general rule, and as a consequence look upon dryness as being among the most serious appearances with which the tongue can be affected.

It remains for us to make some suggestions on the import of several of the more prominent changes which take place in these morbid appearances, and also to say something concerning depraved taste, and the function of taste.

Pertaining to the color, there are certain changes which, by the intelligent practitioner, are well appreciated. In cases where the tongue has been very pale, as for example, in chlorosis, and commences returning to something like the natural color, amendment may be pretty safely predicted. Such a change would indicate that a salutary impression had

been made on the disease, and that the organism was returning to a physiological condition. Of the blue, exsanguineous, or limpid color common to some forms of heart disease, the same might be stated. The change would indicate a better state of the function of hematosis. A change from unnatural redness to the common appearance, is always regarded as ominous of favorable alterations in the character of the complaint, especially when seated in the stomach or bowels. Changes relating to the coat possess more or less interest. When this is noticed to be increasing in thickness and extent it may safely be affirmed, that the malady is in a state of progression. On the contrary, when it begins to peel off, leaving the surface beneath it of a normal appearance, the state of things, as a general rule, may be regarded as being favorable. To this, occasionally, we find some exceptions; sometimes, as in protracted fevers, it happens that a cleaning off takes place several times during the course without being attended with any visible improvement in the symptoms. In such, the surface beneath is found very red after the coat leaves it, and in many instances disposed to dryness and chaps. The color of the coat undergoes several changes which in this place might be noticed. It assumes in some complaints a dirty or brownish hue; in others it grows rather yellow. The former indicates tenacity and persistence in the course; the latter the approach or presence of biliary complication. A tongue that, during the whole course, continues to grow dry is, *cæteris paribus*, indicative of an unfavorable issue. On the contrary, where dryness has made its appearance early, and the organ afterwards exhibits a tendency to moisture the prospects of a recovery are very much increased. In many acute diseases we have the tendency to dryness for some considerable time existing in connexion with a similar state of the surface, palms of the hands, &c. While this continues the prognosis is equivocal. No sooner, however, does moisture make its appearance, than doubts are dissipated, and recovery may be predicted with some considerable degree of assurance.

The alterations which take place in the function of gustation afford in many instances evidence of a valuable character. Besides a perverted state of the function of the nerve of taste arising from the influence of the morbid cause, there are also other circumstances that exercise a prejudicial agency over the gustatory function. We allude to the coat on the tongue by which the sentient extremities of the nerve are so much covered up as either to prevent all contact with alimentary substances, or only such as gives rise to depraved taste. Subsidence, therefore, of depraved taste, and the return of the healthy action concerned in the function, may be regarded as ominous of amendment, and the return of the system to a healthy state. Some complaints we have witnessed in which the taste underwent but little if any change. But in such cases the coat has been either absent or very thin.

Related to the motions of the tongue there are some things that may at times be consulted with advantage. A tremulous state is frequently witnessed in typhus and its allies, and as a general rule, might be taken to import a debilitated condition of the system. Occurring in connexion with a nervous diathesis, or actual disease of the nervous system, its indications would be different. Partly it might then also be due to debility, but more likely to a lesion of innervation. As yet we have not witnessed a case of chorea or paralysis in which the tongue partook of the tremor incident to the part or parts affected. We can see, however, no good reason why this should not occasionally be the case. The want of power exhibited by some patients to protrude the organ over the teeth for inspection, no doubt, depends upon the same cause or causes giving rise to tremor, and should be regarded as being connected with about the same condition of the system.

June 25th, 1846.

ART. II.—*Remarks on Congestive Fever; with Cases.* By FRANCIS H. GORDON, M.D., of Clinton College, Tennessee.

The subject of Congestive Fever is one of so much interest to the profession in our country, that individual experience in the disease is not likely to be disregarded. In the hope that what I have observed in the cases which have fallen under my care may be useful to others, I have drawn up the following paper. I shall enter at once upon the history of the cases, following them by such remarks as have been suggested by my experience.

September 15th, 1845, I was called to T. Walker, æt. about 50 years. I found him in a "congestive chill," which had already persisted four hours. His extremities were cold; he complained of insatiable thirst, with an excruciating, burning pain in the stomach, attended with retchings; he had pain in the head also, and in his loins, and limbs, and a sense of weight along the sternum, with dyspnœa; his face was purplish, and in spots livid; his abdomen tender to the touch, and hard; his alvine dejections abundant, consisting of yellow water; urine scanty and red; tongue red, dry, and rough; pulse 100 in the minute, small and corded. As is usual in such chills, the patient expected hourly to die, and when the chill finally went off he expressed the fullest conviction that he could not survive a second one.

I gave the patient immediately 25 grains of carbonate of ammonia, and a grain of acetate of morphia, and applied a towel wet with cold water to the epigastrium. The ammonia was repeated every twenty minutes, and in about an hour after the exhibition of the first dose the circulation became general and the symptoms grew less threatening. I directed 18 grains of calomel, 15 grains of Dover's powder, and 6 grains of acetate of lead, each to be divided into three equal portions, one of which the patient was to take every six hours, and, if necessary, to promote their action by castor oil in six hours after taking the first powder. I also ordered

blood to be drawn to the extent of softening the pulse so soon as reaction should become complete. For the next day I gave the following prescription: Four hours before the chill is expected, give patient 20 grains carb. ammonia, and 2 grains of quinine; repeat the ammonia every half hour conjoined with spirits of nitre, ʒj., until within one hour of the chill, and then give him 2 grains of quinine and 1 grain of morphia, with ʒij. spts. nitre, and repeat the ammonia and spirits of nitre every half hour till the time for the chill has passed. About the hour of the expected access, apply sinapisms and hot irons to his feet, and keep him closely covered.

16th. At 4 o'clock, P. M., I found that the calomel had operated too freely, inducing green watery evacuations. The patient had escaped the chill, but his fever had been very high; his tongue was red and dry, and adhered to the finger; the epigastrium tender to the touch; sleep disturbed. Prescribed quinine, ammonia, and spirits of nitre as on the preceding day, to prevent the chill, adding morphia to the prescription; acetate of lead and Dover's powder, of each 2 grains, to be given often enough to reduce the alvine dejections to one aday, and if these are not sufficient to that end, use gruel enemata, containing 30 drops of laudanum, and 4 grains acetate of lead; pour a stream of warm water for four hours on the epigastrium, and follow this by hot bran poultices, to be renewed every twenty minutes.

17th. Patient a little better; had escaped his chill; with great difficulty the action of the bowels had been kept in bounds by means of the astringent and anodynes by mouth and rectum; less heat and tenderness of stomach; pulse still small, frequent and hard; abdomen swollen, hot externally, and tender to the touch; tongue as before. Directed acetate of lead, Dover's powder, and laudanum, as before; stream of warm water upon the abdomen for four hours and followed by bran poultices over the whole surface; half grain doses of morphia often enough to keep him quiet; ʒi. spts. nit. every hour till skin becomes moist.

18th. Slight general improvement. All the treatment of yesterday to be continued.

19th. Patient has had a slight chill, and symptoms are aggravated in consequence of his having had three alvine discharges in rapid succession before a speedy resort to the prescribed remedies had had time to control the bowels. Directed the stream of hot water and poultices as before; quinine, morphia and spts. nit. as in the onset to prevent the chill; 20 drops oil of turpentine thrice daily; 4 gr. ää calomel and Dover's powder to be taken instantly, and guarded, if required, by lead, laudanum, and Dover's powder, as before.

20th. Patient improved; has had but one consistent, dark green evacuation; had no chill; slept well three hours; tongue and skin not so dry; pulse less frequent and more soft. Directed 2 grs. quinine and 1 ℥ spts. nit. to be given when the fever abates, and repeat in two hours; lead, morphia, Dover's powder and poultices as before.

21st. Patient improving. Treatment continued. From this time till the 30th the treatment was but little varied, when sulph. and carb. magnesia were administered in small and repeated portions, guarded with lead and Dover's powder. Added to these I ordered as a tonic an infusion of quassia in doses of an ounce thrice daily. During the whole treatment the patient had been allowed only seven or eight teaspoonfuls of soup or panada a day; but his allowance was now gradually increased. Recovery was slow but progressive, and by the 25th October he was able with care to attend to business on the farm.

The foregoing is one case illustrative of many, which occurred to the writer during the prevalence of the disease in 1844 and '45. It is not reported with the view of presenting any unusual feature of disease, but from the impression that as much, or perhaps more good may be done by occasional reports of cases, with which the practitioner has usually to contend, than of such as are rare, and therefore less important.

I believe it is now common to attribute the phenomena of "congestive chill" or "stage of deprsssion" to two proximate causes, viz.: depression and irritation of the nerves of organic life. But along with this view, it is also common to condemn the administration of stimulants during the chill, on the alleged ground that these remedies are apt to do damage by "causing inflammation in the suffering organs," or by "producing an effect on the nervous system analogous to its then morbid state;" in other words, they will increase the morbid depression and irritation on which the chill depends. My observation is at variance with this inculcation. I could give many cases to prove, not only that stimulants do no injury in the stage of depression, but that they do considerable good, and are therefore indicated and demanded. Take one or two examples. Some time in the autumn of 1837, I went with Dr. B. W. Avent, of Rutherford county, to see some patients of his suffering with this form of fever. The object of my ride was to see his practice tested. Some of his patients had been treated on the popular plan, and others had been stimulated during the chill with large quantities of brandy, and bled to incipient syncope, as soon as there was partial reaction. Though I could hardly persuade myself to become a full convert to Dr. A.'s new practice, yet there was no question but that he had been more successful where the brandy had been used. I well recollect two patients in the same house, a brother and sister, who had been treated, the one on the popular plan, and the other with brandy; and the difference in favor of the stimulant could not be misunderstood. The Doctor had been induced to adopt the plan, because he had lost two or three patients for want of complete reaction; and he stated that a majority of those he cured narrowly escaped the grave, and then very slowly recovered. He had not yet seen any injury from the brandy.

I must be indulged in giving one case of my own. June 5th, 1844, I saw Mr. J. S., æt. about 40 years. His system had partially reacted from a chill, which much alarmed him and the family. I left him medicines to ward off two chills,

consisting of 25 to 30 grs. quinine, in solution of paregoric and spts. nitre, ää ℥iss. The next chill was expected at 8 o'clock, A. M., on the 7th. I directed him to begin at 2 o'clock and take ℥i. of the liquid every half hour till 9 o'clock, and as he was partial to pepper, allowed him to drink red pepper tea as he desired. On the 7th, about 11 o'clock, A. M., I was called in haste. The messenger reported Mr. S. as in a dying condition. I found him breathing with difficulty; pulse frequent, but full and not very hard; great internal heat and thirst; whole surface hot and very red. The great dread of another chill had caused the patient to commence taking the remedies at 10 o'clock the night of the 6th, and he had continued up to 9 o'clock that morning; in short, he had taken nearly all the quinine preparation, and besides had taken not less than a quart of red pepper tea. A weak solution of nit. potash as a common drink, and frequent sponging of the surface with cold water made the patient more comfortable, and recovery was rapid without another chill.

September 20, 1845. Saw Mr. E. Rollings in second chill. Symptoms could hardly paint a more severe chill, or more intense suffering. I immediately gave him a grain and a half of acetate of morphia, 25 grs. carb. ammonia and i℥. oil of turpentine. In about one hour the patient was easy, and I left him in a quiet sleep. It was the first case I had attended in the family, and the quaint remark of the patient the next day was, "that the Doctor had knocked the chill sky high."

Having combated many cases in the height of the chill, there is no question with the writer but that with morphia or opium, carb. ammonia and oil of turpentine, the worst chills may be moderated and shortened, and that a majority may be limited to one or two hours from the first administration of the medicines; and, instead of exciting inflammation, the tendency to it is certainly diminished by these remedies.

Having "crossed the Rubicon," in venturing to oppose the popular teaching in regard to this fever in one respect, the reader is no doubt prepared to see my presumption lead me

to speak in disparagement of quinine itself—the anchor of hope in all autumnal fevers. This remedy has been so highly and so universally extolled that its eulogy is common-place, and therefore no commendation. See how extravagant is the estimate of a good remedy. It is popularly said that "quinine is stimulant, tonic, diaphoretic, and, to some extent, narcotic and sedative—is capable of setting aside the febrile diathesis, and establishing in its stead a *specific* quinine diathesis, and is therefore an alterative." We are taught that quinine is the true and only specific in autumnal fevers. We are to bleed, vomit and purge to prepare for the quinine; give diaphoretics and diuretics to prepare for the quinine; cup, leech and blister, all to prepare for the specific, quinine. And some southern practitioners do not think it necessary "to prepare for the quinine" at all, but give it largely *ab ovo usque mala*. We are taught to give it in such quantities as will insure *tinnitus aurium*.

With all deference to high authority, let facts have a hearing. During the autumn of 1844, while the form of fever above described prevailed so generally as to keep every practitioner under a press, the writer ran out of quinine, and could get none at the drug stores in Nashville, nor could any be borrowed of neighboring practitioners. All efforts to procure the article having failed, I feared that some of my patients would die for the want of that valuable medicine. But to do the best I could in that state of things, I determined to rely on oil of turpentine, carb. ammonia and morphia; and the result of three weeks' day and night practice was, that all cases, from the mildest to the most violent, appeared to be as easily and as successfully managed, as they had been by the instrumentality of quinine. During the highest rage of this fever in 1845, which was truly alarming, I was out of quinine for more than two weeks, and succeeded just as well as when I had ounces of the article on hand. When a chill has commenced, my observation proves that quinine is of no avail in arresting it; nor do I believe that that article *alone will invariably prevent a chill*, however long it may be given

in anticipation. I consider opium or morphia more certain in arresting or preventing a chill than quinine; and when you prevent two chills in succession, the paroxysms are broken up, and the disease is easily managed. Any powerful stimulant, with a narcotic, given sufficiently in advance, and continued to the expected hour, will generally be effectual in warding off the chill. But the chief reliance should be upon a narcotic, of which opium is the best, to quiet or suspend the peculiar irritation on which the phenomena of the chill mainly depend. Allay the irritation, and there will be less manifestation of depression. When the regular paroxysms are broken up, I consider quinine more valuable as a tonic and permanent stimulant than in the onset of the disease. It equalizes the circulation and sustains the prostrate energies, until the system has time to recover from the shock it has sustained. But while quinine must be admitted to be a remedy of rare value, the above facts go to prove that its importance may be overrated, and that fever will still be cured after the present rage for that article shall have exterminated the whole genus Cinchona.

JUNE, 1846.

ART. III.—*Translation of a Chapter of the "Institutes of Medicine" of Heurnius*, from the Latin. By Dr. JOHN G. AFFLECK, of Somerset, Ohio.

Chance having, some years ago, thrown in my possession a very rare work, entitled the Institutes of Medicine, by J. Heurnius, printed at Leyden, in the year 1592, I have supposed that a translation of one of its chapters into English might be acceptable to the readers of the Western Journal, affording as it does a faint glimpse of the state of the medical art at the time it was written. I have been the more induced to lay this translation before those who peruse the Journal, from the circumstance, that as Dr. Coxe, of Philadelphia, proposes to translate the works of Hippocrates and Galen, and

as Heurnius seems to be only an echo of those celebrated men, an insight into the secrets of those masters, so far as this scrap goes, may induce some to further the investigation, and may stimulate the profession to give encouragement to the Doctor's enterprize. It may not excite our wonder that Hippocrates, and Galen, and Avicenna, should have held the doctrines advocated in the following chapter, but that Heurnius, who wrote only a little over two hundred years ago, should retail the same absurdities, may well cause a smile.

The Institutes of Medicine were, in their day and generation, good authority, for we find one contemporary. calling Heurnius "*Grande decus columenque rerum;*" another, "the most illustrious and the most learned;" and another, "the New Hippocrates."

He was born in Utrecht in 1543; studied at Louvain and Paris, and at Pavia took the degree of M. D. in 1571. In 1581 he accepted the medical professorship in the University of Leyden, and continued to discharge the duties for twenty years, during which time he had an extensive private practice. He was often consulted by William the First, Prince of Orange. In 1592 his "*Institutiones Medicinæ*" were published.

The Institutes consist of twelve books, of which the first treats of First Principles—the 2d of Temperaments—the 3d of Faculties—the 4th of Humors—the 5th of the procreation of man—the 6th of the difference of diseases—the 7th of the cause of disease—the 8th of the symptoms of disease—the 9th of the urine—the 10th of the pulse and respiration—the 11th of prognosis, and the 12th of Therapeutics or the method of healing. To which is added an essay on the mode of studying medicine.

From the following chapter of Heurnius, on the "procreation of man," it will be seen that in the time of Hippocrates, Galen and Avicenna, the signs of pregnancy were nearly the same as in our own. It is true we have made an accession to our list of several new ones, although few of them are of much value, in a practical point of view. Of the signs lately

introduced, *ballottement* and *auscultation* have become fixed facts, and of immense value. *Jacquemin's test*, in this country, is of no practical worth, if true. *Gravidine* is yet sub judice, and *kiesteine*, although it has lately come into notice, under the auspices of Nauche, existed as a test of pregnancy, according to Heurnius, in the days of Avicenna. The original passage in Heurnius is, "Avicenna meminit urinæ ineunte pregnatione subalbidæ, tenuis, cui grana quædem innatare dicit." Would it not be worth the attention of some of our savans to examine the writings of Avicenna, and ascertain how much credit the late discoverer is entitled to? As a test, although creeping gradually into favor, it cannot be recognized as of primary importance.

The strange conceits about fruitfulness, twins, &c., will doubtless be estimated by the reader at their intrinsic value. In translating the chapter, I have followed the idiom of the author as nearly as possible, and have also added a few more extracts from different parts of the work.

Book v., Chapter v.—*Of the Signs of Conception—Of the Marks of Fecundity—Whether the Woman carries Male or Female, and whether Twins.*—About to treat of the signs of conception, let us first lay down the marks of fecundity—then the evidences of conception, and in the third place the signs which indicate whether a male or female fœtus is carried.

Hippocrates, pointing out the signs of fecundity, says, it is necessary to put a lotion upon the head, and dry it with lint free of all smell. In the evening, put galbanum upon the woman's bosom, and in the morning, while she is yet fasting, make warm the top of the head. If the galbanum sends up an odor, she will be fruitful, otherwise, not. So also in the aphorisms, he orders the woman to be perfumed with storax, frankincense and myrrh, and if the smell strikes against the nostrils and mouth, it argues fecundity. In addition to these signs, Avicenna says that barley should first be steeped in the urine of the man, then of the woman, and if it

germinates when committed to the earth, it denotes fruitfulness. He also recommends sulphur to be sprinkled upon the urine, and if in time it breeds worms, it is an argument for fecundity. Those of a warm temperament, and in whom the right testicle swells, mostly beget boys.

Whether a woman hath conceived you may determine by the semen not escaping, and from the mouth of the womb being shut. But obstetricians are admonished, that this shutting up of the uterus ought to be soft, without hardness like an unnatural swelling. Besides, the menses stop, without fever and chills; but with nausea or pica, that is she will have a longing for strange things, occasioned by bad juices originating in the stomach. But you will say, Galen affirms in the 5th book, aphorism 60, that a woman sometimes is pregnant while the menses flow. Thus we say, and by this very flux the matter can be proved, for there are veins in the neck of the uterus which sometimes pour out abundantly the dregs which are in the veins of the womb, and which are collected between the second and third membranes; and thus in flowing it becomes of a pale color. But in what manner, therefore, if the blood thus flows, will we know if conception has taken place? We will know this from the copiousness and quality of the blood, which differs from that which is emitted from the unimpregnated uterus. From the impregnated woman it flows scant and corrupted—of an unsightly color, and useful neither for the fœtus nor mother. The blood in the impregnated woman goes out only through the veins, to the neck of the uterus, and not also through the veins of the body of the uterus. Besides, an evidence is given that the woman hath conceived, from the motion which is felt about the region of the uterus. But this happens also from flatus; true it is, but then the breast with the nipples will not be swollen; when the belly swells the breasts will also; this is almost in the last months. However, it may seem contrary to nature, that the breasts are sure to swell in the last months. Why not rather in the first months? for at this period a great deal of the excrementitious juices flows through the mammæ. We

reply: the excrement is sent into the veins of the uterus, and finally they being expanded and filled, the blood is forced in another direction. The swelling of the abdomen, which presses upon the veins already filled, also favors it. But one will say, in what manner in the first months will the uterus membranous and thin, receive so much excrement; for by tension the uterus is rendered very thin. Believe both Aurantius and myself, who have seen it in dissection, that the substance of the uterus in the impregnated woman does not become thin, as was formerly supposed, but grows thicker. The uterus eventually is changed from a membranous substance to one unlike any thing else in the whole body. It is a porous body like a sponge, and divisible into many layers and pervious like pumice, except the external tunic, which is connected with the peritoneum. When the fœtus has almost arrived at maturity the uterus nearly equals the thickness of two fingers, by which it becomes suitable for the excrement. At last the whole uterus is filled, and pressure in the last months being made upon the abdomen, by the swelling which compresses the full veins of the uterus, the blood takes another direction, and is carried rather to the spongy void of the glands, on account of the genuine sympathy which exists between the uterus and breasts, than to it; thither, therefore, the blood directs its course. Besides, in pregnancy the eyes become hollow and pale, for the reason that they are deprived of animal spirits, which, as they are made from vital spirits, are not carried equally to the brain, but rather to the uterus. Avicenna makes mention, in pregnancy, of the urine being pale and thin, upon which certain grains float. But this is a vain idea, for the urine passes neither through the uterus nor the veins of the uterus.

Now I will give a few signs how we may know whether the mother carries a male or female in the uterus. Hippocrates, in his book "De natura pueri et de formatione fœtus," says if a male fœtus be carried, the right breast will swell first, and the right eye will be more lively. The reason is that the male is for the most part conceived in the right part of the

uterus, and the woman will be of a more lively color; for when the male draws nourishment he infuses the masculine strength throughout the whole body, not otherwise than the testes do. But a woman ought not to be compared with others, but only with herself; that is, whether she is more sightly in the impregnated or unimpregnated state, and whether she enjoys herself the same as formerly, by reason of her way of living. For if she hath entered upon a better life after she hath conceived, although she may be pregnant with a female child, her color will be better than formerly. So if she carries a male and lives indifferently, her former color will be destroyed. But amongst all the signs, the motion of the infant is the most certain, for the male moves itself more vehemently. The female sometimes does the same, and on this account Avicenna prudently adds, that the male does it before the fourth month; for it begins to be moved in the third month. If it is a male, the woman will perceive the motion in the right side of the uterus, and the pulse of the right arm will beat more forcibly—the contrary, if a female. Avicenna adds that the right breast not only swells, but even pours out milk. He says you may pour the milk upon a glass, and expose it to the sun, and if it concretes like a spangle, she carries a male—if it is scattered, a female; for while a male is carried, heat increases; whence the milk becomes thicker. Hippocrates adds, if milk is spread upon lettuce, and it flows off, it denotes that the woman carries a female; and he says if the milk is mixed up with flour, and the mass put upon the fire, it indicates that it is a male if it can be toasted; but if dissolved, it is a presage that she carries a female.

But can it be known before, and in parturition, if the woman is big with twins. Before, if the tumor of the abdomen is large and she is of an unusual size. Avicenna asserts it is known in parturition, by the umbilical* cord of the first fœtus forcing its way out. If it has knot or wrinkle, the idea is that another fœtus remains in the uterus.

*I am not certain whether the umbilicus or umbilical cord is here meant.

Extract from the Essay on the Mode of Studying Medicine.—Hippocrates has always been esteemed the true exponent of the healing art. His writings are as oracles, and not the words of human speech. All antiquity cherishes him, as the author and director of all discipline. Celsus says he was a man renowned in science and richness of expression, and Macrobius says he neither knew how to deceive or to be deceived. In him there was a careful propriety of words—a concise accuracy of sentences—a venerated antiquity of speech—a commendable dignity of artifice. In his writings nothing is superfluous—nothing useless; but all expressed with beautiful brevity and significance; and the richness and amplitude of his facts far surpasses the number of words. These are natural and peculiar to Hippocrates. His benignity was so great that he knew nothing which he wished others not to know, and so great were his genius and wisdom that no one following him knew what he himself was ignorant of. In him you may find all the rudiments of medicine.

His most faithful commentator is Galen, who, as some say, lived one hundred and forty years. He, endowed with all philosophy and suitable philology, speaks every where in a pure, elegant, simple and never affected speech, not without a great store of words and sentences. He never offends the reader by satiety, but every where smooths the way of him desirous of progress, by rhetorical artifice. A man made for eloquence. In him you will find rare and select philosophical precepts, and more important than in any other writer. He obtrudes nothing upon the reader, which he does not demonstrate by strong reasons, and gives refutation to his opponent. He has very beautiful morals and subdued passions. He inveighs particularly against ambition and avarice, and treats learnedly and elegantly upon any subject. To no one, for the cultivation of his mind, are his words useless.

Extract from Book vii., on the Cause of Diseases.—According to Hippocrates, no cause predisposes more to disease, than the retention, or too great effusion of the secretions;

such as mucus, bile, excremens, urine, the menses and hæmorrhoids. Retained flatus is fruitful of disease, as you may understand by the edict of the emperor Claudian, who, as Suetonius tells, gave the privilege by a proclamation, of belching and breaking wind at entertainments, when it was ascertained that by retaining them through shame the health would be in jeopardy.

Venery also may be reckoned amongst the excretions. Galen, in his books upon the medical art, writes that Epicurus, the greatest philosopher, esteemed the use of venery to be unhealthy; but not without reason, for he held in contempt corporeal pleasures. For he was a temperate man, as Diogenes Laertius writes, and a good man—pious and a worshiper of God and friends. However, according to the opinion of Pythagoras, coition ought to be used by those who wish to become more reduced. Immoderate venery brings on infirmity of strength and decrepid youth, which, according to the opinion of Cato, as Pliny relates, indicates an early death; because by copulation the spirit is drawn from the brain, and as the benignant humor is suddenly poured out from the solid parts, they are defrauded of their peculiar properties, and native humidity. Truly nothing equally enfeebles the brain, says Cælius Aurelianus, makes weak the body, and disturbs the substance of the soul, like constant venery. Hence, as Pliny tells, Democritus condemned all coition. Venery is bad while the menses flow; and the conception is unhappy when the system is imbued with foul disease, as well as when it takes place with polluted blood; hence elephantiasis and lepra. Copulation becomes fruitful in those in whom the menses have just flowed, and to those who are, as if it were, hidden. Whence the ancients said that, under the moon, Venus, who dances before, leads the band. Venery is hurtful in tender age; whence Cæsar, in the sixth book of the Gallic war, writes, it is esteemed base to have connection with a woman before the twentieth year.

REVIEWS.

ART. V.—*Chemistry, as Exemplifying the Wisdom and Beneficence of God.* By GEORGE FOWNES, PH.D., Chemical Lecturer in the Middlesex-Hospital Medical School. New York: Wiley & Putnam. Philadelphia: J. W. Moore. 12 mo. pp. 158. 1844.

Of the many definitions which have been given of man, the most philosophical is, that he is a *religious animal.* While the races below him, so far as we can judge, are limited in their wishes to the "ignorant present time," happy if their physical wants are supplied, and without the sustaining influences of hope in times of distress, man in all circumstances looks to the future. How happy soever may be his lot at any given moment, if his future be darkened he is made miserable. This involves the necessity of a belief in a future state where the deficiencies of the present life will be supplied, and the evils incident thereto will no longer exist. Such a belief, we find, has obtained in all ages, and among all nations, and may therefore be termed instinctive. Far from having always been wisely directed, it has in a vast majority of instances degenerated into a dark and cruel superstition; but it is nevertheless the paramount belief of the human understanding. "The first and most indispensable condition of happiness to a reflecting, intelligent man," remarks the author of the admirable little work the title of which heads this article, "must be the acquisition of sound, consistent, and cheerful views of the relation in which he stands to his Creator; without these, all external appliances and means are worthless. Unless he be

deeply impressed, thoroughly imbued, with the conviction that he is, and shall be, every moment of his existence in the hands of a Being of unmixed and unbounded benevolence, exerted under the guidance of wisdom and knowledge, embracing all possible contingencies, and rendered effective by power extending to all things not involving contradiction, he cannot be permanently happy." Such a conviction the study of nature is calculated to impress upon the mind, and hence good men for centuries past have inculcated the study of the works of creation as affording the most convincing proof of the wisdom, power, and beneficence of the Creator. The writings of Boyle, who was equally conspicuous for his learning and piety, contain many arguments on this point. An admirable work has come down to us from the pen of John Ray, entitled the "*Wisdom of God manifested in the Works of the Creation;*" in which he considers the heavenly bodies, the elements, meteors, fossils, and vegetables, as well as the earth, its figure, motion and consistency, and especially the admirable structure of the bodies of man and other animals, in reference to that question. The same line of argument has been happily enforced by the pen of William Derham, a divine of a philosophical turn of mind, whose writings are still extant. The argument was taken up by the celebrated Dr. Paley, whose treatise on natural theology has acquired something of a professional character from the illustrations of Paxton, the anatomist. Since the appearance of that masterly work, the subject has received a flood of light from some of the first minds of the age. The hand has been exhibited by Sir Charles Bell as evincing design; Roget has treated of physiology; Kirby of the history, habits, and instincts of animals; Prout of chemistry, meteorology, and the function of digestion; Buckland of geology; and Whewell of astronomy and general physics, in the same relation; and Kidd and Chalmers have completed the argument by showing the adaptation of external nature to the physical, moral, and intellectual condition of man. The volume before us may be regarded in the light of a sequel to this series of works, known as the Bridgewater

treatises. Chemistry is a most progressive science, and the new revelations which it makes from year to year of contrivance and design, form an interesting accession to the immense pile of facts with which the argument has been fortified. We propose taking up the subject somewhat in detail, and, for the sake of variety, occupying a few pages of our Journal with other matter than that which is strictly medical; and in doing so we hope we shall have the indulgence of our readers, who will agree with us in applauding the sentiment of the Roman dramatist, that nothing is beneath our regard which relates to humanity.

One of the most abundant, as well as one of the most interesting substances of which chemistry treats, is atmospherical air, which is indispensable to the existence of all organized beings. The tree soon dies if its roots be surrounded by stagnant water and the oxygen of the air fail to mingle with its circulating fluids; and the zoophyte fastened to the rock is as dependent upon the vivifying principle of the atmosphere as the most perfect class of animals. The first act of the new-born babe is to inhale the air, and the last effort of the expiring man is to command its receding wave. This fluid surrounding the earth to the distance of about fifty miles, the home of everything that lives, the laboratory in which all the multiplied and curious processes of nature go on, has been studied by men in all ages, but until modern times studied to but little advantage. It was long regarded as an elementary body, which united with earth, fire and water, to compose the endless varieties of matter. Only a little more than half a century ago it was not known what the principle was to which it owed its life-sustaining qualities. Dr. Hooke, in the time of Sir Isaac Newton, conjectured that it must contain something analogous to the principle in saltpetre which rendered that substance so effective in supporting combustion; but oxygen, the common principle of the atmosphere and nitre, to which they owe the power of maintaining flame, was discovered by Priestley late in the eighteenth century. The other element, nitrogen, had been discovered by Rutherford

two years before Priestley separated oxygen, but he did not make the discovery that it was one of the constituents of the atmosphere. This was reserved for the great French chemist, Lavoisier, who, if his life had been prolonged, would probably have added to this other discoveries which would have left less for the genius of Sir Humphrey Davy to achieve. These more palpable truths connected with our atmosphere having been revealed at a period comparatively so recent—as compared with the age of physical science only but as yesterday—it is not surprising that there are still phenomena pertaining to the air which have eluded the scrutiny of the whole body of chemists, up to the present hour, and which fresh researches and more accurate analyses are necessary to unfold. The vapor so extensively felt, so much dreaded, under the influence of which so many thousands of our race are now racked with fevers or shaking with agues, how has it escaped the search of the philosopher! *Causa latet; vis est notissima.* The chemist has sought for it in vain in the most pestilential airs—over marshes and rice-fields, where to breathe the atmosphere for a single night is to contract a malignant fever. Art has not yet furnished us with the means of recognising any new gas even in places where the fever poison is so palpably present.

But enough is known of our atmosphere to prove that in its constitution and arrangement it is pefectly adapted to the wants of the beings that respire it, maintaining a comparative purity in the midst of circumstances which tend perpetually to render it impure; continually giving up one of its elements in large measure, and yet retaining each one in a state of perfect equilibrium. Not only is it indispensable to the beginning and perpetuation of life upon the earth, but it is the only fluid which could support the respiration of animals. No other combination of gases, though some of them would be innocuous, could replace the present elements which compose the atmosphere. The vitalizing constituent is its oxygen, to breathe which all animals are provided with lungs or *gills*, or some apparatus by which it may be made to touch

the blood. It gives vitality to the circulating fluid, suffuses the human cheek with the ruddy glow of health, and imparts elasticity and vigor to the muscular system. Nitrogen, the other constituent, is an inactive element, taking directly no part in the animal functions, entering into no combination with its fluids, and serving no other purpose that can be perceived but to dilute the oxygen, which would be too exciting to the system if uncombined. But, then, nitrogen is the only diluent, out of many gases, that could have been employed in an atmosphere designed for the living race. Hydrogen was substituted by Pilatre de Rozier for a little while, but his artificial atmosphere was combustible, and when he set fire to it an explosion resulted by which he thought, at first, that he had lost his teeth. In an atmosphere of hydrogen and oxygen, animals become drowsy as when exposed to the narcotic gases. In such an atmosphere, even if he did not perish speedily, man would lose his energy and grow listless and stupid, and a universal sleep would fall upon the animals that now sport around him so full of life and vigor. But not only so; as these gases form a fulminating compound they would take fire the moment that an ignited body was brought into contact with them, and explosions fatal to all animal existence would ensue. Fires would be out of the question in an atmosphere so constituted, and if a spark should chance to fall into it, or the clouds transmit their lightning through it, a conflagration would be kindled up which would shake the globe to its centre, and in an instant precipitate the air to the earth in the form of water. It is therefore clear that hydrogen could not take the place of the passive azote, the very passiveness of which seems indispensable to it as an element in our atmosphere. And it may be added, that of the many elementary bodies known in chemistry, all of which are capable of taking on for a time an aerial shape, no two but oxygen and azote would form a respirable fluid answering to all the exigencies of the living world. Most wisely, we conclude, then, has it been composed. Not the best materials merely, but the only

materials extant in our world that would answer, were employed in its fabrication.

Nor is this all. The proportions in which the elements have been combined are precisely the proportions requisite to the maintenance of life in full vigor and for its present term. If oxygen were more abundant in the air than it is, the systems of animals would be unduly excited; fever would ensue; and, as the flame burning with unwonted intensity sooner exhausts the matters it feeds on, the living body would perish of rapid inflammation. The life of man, limited now to a few score years, would be narrowed down to a few days of delirious existence. Even if he might be inured to so exciting an atmosphere, and escape the consequences of a combustion in his own frame, he would not be able to regulate his fires, or to employ many of the matters which are indispensable to his comfort. All his utensils of iron would take fire and become useless when he attempted to mould them by heat into the desired form. The various combustibles that now burn with a quiet and steady flame, diffusing light and cheerfulness through his dwellings, would pass rapidly away in an intense glare of heat and light unsuited to his purposes.

But this augmentation in the amount of oxygen is not the only disturbance that might be created. We may suppose the oxygen wasted and the nitrogen predominant, in which case we should have an air laden with a soporific influence—an air in which men might live, but their lives would be such as cold-blooded animals live. The system would languish under the want of its necessary stimulus; the blood, no longer crimsoned by its wonted contact with vital air, would creep in a purple current along lifeless tubes; the brain, robbed of its needed stimulus, oxygenated blood, would grow feeble and dull, and mind would no longer put forth its accustomed strength; the wings of the imagination would become powerless and tame, poetry would lose its inspiration, eloquence would cease, and even judgment, slow now in its operations, moving with a cautious and wary step, would lose all power of action. So that whether we should remove either of its

constituents, or simply vary their proportions, whether we should exalt or reduce its tone, disorder would be equally the result; and since this peculiar constitution is in perfect harmony with the sentient beings of this globe, the inference is natural that it came from the hand of a benificent Creator.

This evidence of wisdom and design becomes stronger when we look more closely at the arrangement by which the air is preserved against deterioration. The balance in its elements, so exquisite that the chemist has sought in vain for any variation, is opposed by multitudes of agencies which tend continually to disturb it. Every fire that burns, and every animal, during every moment of its existence, wastes one of the constituents of the air; and but for a provision counteracting this waste, the healthful atmosphere in which we now find ourselves invested would long ago have given place to an assemblage of vapors more pestilent than the air of an infected city. What is this provision? How, amid all the disturbing forces which ceaselessly assail this balance—the countless fires, and the myriads of animals that imbibe the oxygen, while they load the air with another gas hostile to life—is the primitive condition of this fluid maintained;—the oxygen kept from declining, and the carbonic acid, evolved without intermission over all inhabited lands, restrained within limits that render it harmless? By what magic influence is this beautiful adjustment preserved in the midst of this perpetual strife, so that after a contest of six thousand years neither force has gained any ascendancy?

At first the contest appears to be a perilous one, for as the carbonic acid is much heavier than atmospherical air it should tend continually to displace it, and by lifting it above the earth remove it from beyond the reach of men and animals. But what, looking at it *a priori*, would seem to be a dangerous tendency, is obviated by another law, which controls the law of gravitation. As late as the time of Lavoisier this law was not understood, and that acute philosopher believed that the light gases floated above the heavier, such as were combustible being kindled, now and then, in the upper regions of

the atmosphere, and giving rise to the coruscations of the aurora borealis. According to this law, the full development of which we owe to chemists of our own times, each gas is independent of every other, and expands and diffuses itself as freely as if it alone existed. The particles of carbonic acid rise through the oxygen and azote as freely as if it were rarer, instead of being, as it is, much more dense than those gases are. Each seeks an equable diffusion, and uniformity of constitution in the atmosphere is the result. No one constituent can ever accumulate at one point, or be permanently diminished at another. The particles of oxygen resting upon other particles of the same fluid are quickly sensible to the change, when its volume is affected by any of the disturbing causes to which we have alluded, and a motion takes place among them by which the vacuum is filled. In crowded cities, where numberless fires and lungs are rapidly abstracting oxygen, there is a tendency to a loss of the equilibrium—to a deficiency of the vital element and an excess of the azote, as well as of carbonic acid, which the lungs and fires evolve in copious measure. But the loss is never perceived; the noxious redundancy rarely occurs; it is only in peculiar situations that carbonic acid accumulates to a dangerous extent. Oxygen from other regions, from over the green fields of the country, and the distant mountains and seas, pours in perpetually to supply the waste; while the carbonic acid spreads abroad and attains a general diffusion. And thus it comes that the city has an atmosphere as free from these noxious gases as the air of the country, or only so slightly tainted by their presence that the chemist detects no increase in the proportion of its carbonic acid, over what is found in air taken from the summits of lofty mountains, or that which has been brought down by the aeronaut from its most elevated fields.

But there is still another provision for maintaining the equilibrium between the elements of the atmosphere and this intrusive gas; a provision as evincive as anything that could be conceived of beneficent design. This is the relation of the vegetable kingdom to carbonic acid, which is such as to form

a perfect balance between the two departments of organic nature. The functions of animals involve the production of this gas, and vegetables cannot grow without it. It is the appropriate and indispensable food of plants; they inhale it when in a growing state perpetually from the atmosphere, and, fixing the carbon in their tissues, set the oxygen free to minister again to the wants of animals. In this manner the atmosphere becomes the source whence vegetables derive their chief aliment, while these, by absorbing and decomposing the carbonic acid, contribute to the purity of the air, the forests and the fields returning to it its vitalizing element. By all these contrivances the balance is maintained with undeviating exactitude; nor, while these laws continue to be operative, can any derangement occur. No deleterious vapor can remain long stationary in any place owing to the law of diffusion, and so the poison of the pestilence becomes diluted and loses its power. It is impossible for the air ever to be stagnant. Its constituents, as we have seen, penetrate each other readily, and are continually changing place; its particles cohere by a trifling force, and hence currents are ceaselessly formed. That portion which grows heated is rarified, and rises, while the colder and heavier columns from above descend to take its place. The volume which rests at one moment near the earth, the next, expanded by the heat of the sun, may be ascending towards the region of frost, to return again to the earth after it has grown heavier by growing colder, and breathe among the flowers in the warm valleys below. The wave which floated yesterday over an iceberg at the poles, may be moving to-morrow over the sunny plains of the south; while the sultry air of the equator is passing in opposite and more elevated currents to temper the inclemency of northern skies. Thus the aerial ocean is never at rest. Currents are set up at every moment of time, and are a part of the machinery by which the air is preserved untainted.

Another quality in the gases composing the atmosphere displaying equal wisdom and design, is their low power of trans-

mitting caloric. Among the conductors of heat the gases are the worst; and it is even questionable whether they can be said in any true sense to conduct it at all. This negative property is essential to the air as the habitation of beings possessing a fixed temperature. Warm-blooded animals perish if the heat of their bodies be increased only a few degrees, and in a medium conducting heat rapidly such a result would be continually threatened. And in like manner the extinction of the living races would be endangered by the rapid abstraction of their vital heat in cold weather. Water heated above 120° of Fahrenheit's thermometer becomes painful to the hand; but men have exposed themselves to the air of rooms heated more than twice as high. Iced water would soon produce a fatal reduction of the temperature of animals; and yet men have gone abroad without injury when the air was a hundred degrees colder; and tribes of men subsist in climates where the winters are sufficiently intense to congeal mercury. If the atmosphere had been endowed with greater powers of imparting and abstracting heat than it possesses, it is manifest that it would not have been fitted to sustain the animal races, that now preserve their own unvarying temperature amid all the vicissitudes to which it is annually exposed. Just effective enough by the interchange of its particles in mitigating the heat of the tropics, it is so slow in robbing the body of its caloric that men find it practicable to live in the most rigorous climates.

Water is not less affluent than the atmosphere in facts evincive of beneficent design. Water, indeed, is most curiously made, and the more we look into its constitution the more we find in it to admire. It consists of bases which kindle the most intense flame at the moment of their union, and, the antagonist of fire, is formed whenever the fire burns. Its bases when they unite with other elements often give rise to compounds possessing acid properties, and no acid exists in which oxygen or hydrogen is not found to be a constituent. But when these elements unite with one another, instead of an acid, we have a bland fluid, destitute of taste and smell. The

air, we have been seeing, is in admirable harmony with the sentient beings that breathe it; but it would be a most unfit agent of respiration but for the presence of the water which infiltrates it like another atmosphere. Deprive the air of this aqueous vapor, and what is now the evening wind, or the refreshing sea-breeze, would become the blasting sirocco. But evaporation is so active that parched winds can traverse only narrow tracts of the globe. Wherever water exists evaporation goes on, and is not suspended even when the water becomes ice. In winter and in summer, in the burning and in the frigid zones, from the humid earth, and from expanded seas, the silent, invisible vapor is continually ascending. It is computed that the Mediterranean in this way gives up more water than it receives from all its great rivers. This water might have floated continually in the atmosphere as a cloud or fog, in which case, although it would have served as a medium of respiration, it would have drawn a perpetual veil across the heavens, shutting out from us the glorious light of the sun and stars. And so it has been kindly arranged that after the storm sunshine shall succeed. The vapor which rises spontaneously from water is not suddenly condensed like that which is raised by artificial heat, but in ascending combines with electricity, whereby its particles are rendered self-repellent, and assume the form of minute vesicles. These little hollow spheres constitute clouds, which are buoyant by virtue of the electricity with which they are charged. So long as the vesicles preserve their form the water of the clouds is kept suspended, but the moment they collapse the rains begin; and this takes place when the charge of electricity is lost. The earth being in an electrical state opposite to that of the clouds, will attract them; their electrical fires will pass to the earth; and thus the storm begins. The showers always descend most copiously just after a flash of lightning, the cloud-bubbles collapsing in consequence of the escape of the electrical fluid. But the balance is restored after a time; the lightning is no longer in motion; spots of azure break out in the troubled sky, and the "bow of hope

and promise starts up upon the bosom of the retiring cloud. Mountains favor this process, and in view of their beneficent agency might be reckoned to be so many guardian giants, which have been stationed through the earth to collect the showers and disperse them over the valleys and plains consigned to their care. As more rain falls in mountainous districts than in champain countries, they give origin to numberless rivulets, which gradually swell into broad rivers that bear upon their bosoms the commerce of the country, and carry fruitfulness to the lands below.

But the whole beauty of this machinery has not yet been unfolded. Water, it is well known, comprises much the larger portion of the surface of our globe, and these vast oceans are sources of perpetual exhalation. What would be the result, if the water thus exhaled into the air constituting the material of clouds were to return directly to the bosom of the deep? It is quite palpable that barrenness would spread over the earth, and all organized beings perish from the face of it; and the arrangement by which this is prevented must be held to evince benevolent design. The clouds of the ocean, probably because charged with the same kind of electricity as the ocean itself, are repelled from it; the vesicular form of the vapor is preserved, and the buoyant clouds float over the sea to the distant shores; there to be drawn down by the hills and mountains, watering the earth that it may give bread to its inhabitants; again to be borne by the universal slope to the parent ocean; and so continue to run through this magnificent circle of changes so long as the existing condition of the world endures.

Let us consider for a moment some other interesting phenomena connected with the precipitation of atmospherical moisture. All are familiar with the fact that bodies, suddenly cooled, condense the aqueous vapor in the surrounding atmosphere, and most persons have been struck with the connexion between the ready condensation of this moisture on the tumbler of cold water, and that state of the weather in which rain *is* likely to fall. The earth being a better radiator of caloric

than the air, is found soon after sunset to be colder than the air just above it; and thus it becomes a condensing body. The vapor in the air surrounding it is precipitated in the form of dew. But who has not been struck with that beautiful provision made for the living world, as he has walked abroad in the morning and beheld each spire of grass, and every green leaf pendant and dripping with the dews of the night, while the dry inorganic bodies around had received only a small share of the moisture. The plants, owing to their rough surfaces, give up their caloric more rapidly than the dry, hard earth, and for that reason the dew is distilled more richly upon them.

Although water evaporates at a very low temperature, the evaporation is in a direct ratio to the heat; and hence it follows that in hot climates it is much more rapid than in cold. It is most abundant in tropical countries, where it answers the beautiful end of mitigating the intense fervor of the sun; and is but trifling in amount in polar latitudes which have no heat to spare. And the mode in which it descends differs equally in the two regions. In northern climates it comes down in a gentle, almost perpetual mist, and warms the air by the transition from a vaporous to a liquid state. If it fell thus in hot climates, the clouds continually hovering over the earth would check evaporation, and render the air intolerably sultry; the rains falling so slowly would sink deep into the ground, and vegetables bathed in this perpetual moisture would rot before they ripened; and the face of the country would become an extended marsh, exhaling every fetid and poisonous effluvium; a fit residence only for lizards, bitterns, and other unsightly aquatic animals. But in such latitudes it descends in sudden, drenching rains which flow rapidly into the streams; the clouds quickly disburdened of their showers are soon dispersed, and the vertical sun beaming upon the earth renews the process of evaporation, dissipates the excessive moisture, and enlivens the inhabitants with an elastic atmosphere.

The specific gravity of water is precisely that which fits it

for the various offices it must perform in the present constitution of our universe. By virtue of its density it floats the seeds of vegetables to plant new colonies upon distant continents and islands, extending thus the dominions of the living world. The ocean, too, is whitened with the sails of commerce; the light of science, and the arts that soften and refine, are borne to every quarter of the globe; and civilization, and the hopes of the gospel are spread as far as there are winds to waft or seas to roll them. A fruitful soil is brought down from the disintegrating rocks of the mountains, and spread out into vallies and plains for the use of the husbandman. A home, adapted to their forms, answering to all their wants, is furnished for the myriads of aquatic animals which swim upon its surface or glide swiftly through its waves. Increase its density, as to that of quicksilver, for example, and ships of iron with platinum for ballast alone could navigate it in safety. Or make it lighter, and the light canoe would not float upon it, and the splendid barque that now "walks the water like a thing of life," would be engulphed and lost beneath its waves.

One of the most admirable laws of water is, that it freezes. This subserves a hundred most important purposes. Water gives out heat in freezing, and thus in the coldest quarters of the globe, as it is congealed by frost, it is liberating vast volumes of caloric, and the process of congelation is in this way counteracted, and at last arrested, by the heat which itself sets free. Freezing is a warming process. Every fall of snow, it has been computed, imparts more heat to the atmosphere than would be afforded by the same quantity of pulverized red hot glass. But evaporation is a cooling process. Extended oceans spread their bosoms to the sun, in equatorial regions, and the vapor which they send up tempers the fervor of his vertical rays. It is borne along to the north by the upper currents in the air, and descending in the form of sleet or snow, sets at liberty the heat which it absorbed in the south. Thus by the same splendid operations which cool the temples of the children of the sun, are the horrors of the po-

lar winter softened and made supportable. The aurora borealis, the glory of northern climates, is also an effect of the same arrangement. The electricity which is transferred thither in combination with the vapor, descending with the caloric and accumulating upon the ice at the poles, at last breaks through the atmosphere into the vacuum above, and in hastening back towards the tropics gives out light to cheer the long winter nights of those regions.

Other advantages grow out of the congelation of water, and the circumstances which attend this process. Most bodies grow smaller as long as they continue to grow colder, contracting when they freeze. Water is of a smaller class which obey another law; a law fruitful in most beneficent consequences. It expands in freezing; by which we see bottles holding it broken; strong tubes conducting it burst; and the strongest metals confining it riven asunder. Mark, then, the operation of this law. The earth, after receiving the rains of autumn, is congealed by the winter's frost. The water in it being expanded, the soil is pulverized and made light, and prepared for the roots of the tender, growing vegetables in spring. But more. Ice, as a consequence of it, forms first on the surface of our rivers and streams. The intestine motion which goes on in water when subjected to a change of temperature ceases at a particular point. Cooled down to 40° of Fah., it attains its maximum density; and as the cooling proceeds, those particles which are reduced below this point float upon the surface, being lighter, and finally arriving at 32° are frozen. In the mean time the warmer water below being heavier, remains at rest; its heat being in some degree kept in by the covering of ice above. Did water continue to grow heavier, as it became colder, until it arrived at the freezing point, a cake of ice would form first at the bottoms of our rivers; the whole of their waters would be reduced to the point of freezing before congelation began; and their fish by affording a nucleus would be among the first objects to be incarcerated by the hardening ice. The cold of a few nights would congeal deep rivers, and the ice lying far

below, would not be softened by the returning suns of summer. The inhabitants of water would perish. Coasts would cease to afford, as now, the most genial climates and luxurious homes.

So much turns upon the simple law, that water grows lighter before attaining the point of congelation, and expands in freezing.

Water freezes at the right temperature. Alcohol has never been frozen by the cold of the polar winter, or by the most intense freezing mixture. Suppose such were the law of water. We should indeed have frozen oceans no longer, and the explorer of northern seas would find a liquid surface as far as there were gales to propel his ships. But we should have rains much colder than ice or snow,—rains that would sink the thermometer to zero—that falling upon the earth and penetrating the soil, would chill it beyond what the heat of the returning summer could restore, and blight and destroy the seeds and roots of all vegetation.

But now, reduced to the temperature of 32°, it loses its liquid form, gives its latent heat to the ambient atmosphere, and descending as fleecy snow, throws around the earth a mantle which shields it from the more intense degrees of cold. For snow is a very imperfect conductor of caloric. The earth is often little lower than 32°,—of the temperature merely of ice—while the air is 50° below zero.

But inconceivable disasters would flow from its easier congelation. The cold of a night might arrest commerce—the wide ocean would be covered with ice, our springs cease to run in winter, and a solid crust bind up the earth where now the plough of the husbandman finds a pulverized and genial soil ready to receive the seeds of the future harvest.

No common liquid undergoes ebullition at the same temperature with water. Ether boils at 98°, alcohol at 175°, mercury at 650°, water at 212°. If it boiled at 98° with ether, we should be frozen in mid-summer, as we freeze water by the evaporation, in other words, by the boiling, of ether

under the exhausted receiver of the air pump. If it boiled, with alcohol, at 175°, still the earth and our bodies would be too much cooled by the rapid evaporation; while we should be forced every day to complain, with the Augustine Monks on the great St. Bernard, that the water could not be made hot enough to prepare our soup. But if, instead of boiling at these reduced temperatures, it reached the point at which mercury boils, before ebullition commenced, it would disorganize and destroy all materials of aliment, and become useless as a culinary agent.

But, although the boiling point of water is so much below that of mercury, its capacity for heat is about thirty times as great. Thirty times as much heat is necessary to raise water to 212° as to bring mercury up to that point, and consequently water is heated thirty times more slowly than that liquid. In boiling, water combines with much heat which becomes latent, and is not appreciated by the thermometer. The same is true of ice in melting. Hence the boiling of water, and the melting of ice, are processes which go on slowly. Were the law otherwise, and did not the great capacity of water for caloric exist, when it became heated up to 212°, it would instantly flash into steam, and no boiler, however powerful, would be able to resist an explosion. And in like manner ice would instantly liquify, when it was raised to the temperature of 32°. Instead, as now, of softening gradually under the increasing heat of spring, the accumulated snows of winter would be melted by the heat of a single day, and pour down from hills and mountains in wide-wasting inundations.

Water is the natural beverage of man and other animals, and as a diluent for their food it is necessary that it should be comparatively free from saline substances; and yet the sea is charged with salts. The chloride of sodium in which it abounds, like water, is a necessary of life; as a condiment it is essential to the tone of the alimentary canal, the privation of which induces disease. Besides, it is an antiseptic upon which we depend mainly for the preservation of much of our most valuable food. The ingenious author of the work referred

to at the head of this article conjectures, that the water of the ocean was not originally brackish, but has acquired that quality from the washing of the land by the rivers which flow into it. However this may be, we find the condition of the sea, at present, precisely such as favors the wants and business of human society. The salt in its waters tends to preserve them pure, while it is an abundant store-house from which men may draw forever; it renders the water heavier, thus adapting it more fully to the purposes of commerce; it also makes the water much more slow in congealing. This ingredient, so important where it is, is left in its ocean-bed while the water is exhaled. Fixed in its character, heat never evaporates it, and the vapors which rise from the sea are without any saline admixture.

The earth is equally full of these proofs of design. We speak not of its position in reference to the sun, nor of its mountains, and slopes, and valleys, which give us the variety of seasons and climates, and our oceans, and running streams; but of its chemical constitution. Entering into its countless forms of matter, there are recognized nearly sixty elementary substances; some of which, in their action upon organised beings, may be said to be neutral; some are capable of assuming shapes which minister to their nourishment and growth; some exist in quantities so small that they are rarely detected; many can be isolated only by delicate and tedious processes; and many, in respect to animals and vegetables, are highly noxious. Silica is the most abundant, after oxygen; and, to say nothing of the necessity of this substance in the composition of the cerealia and many other species of plants, whereby their stems are rendered hard and capable of supporting their ripening fruits, or of its importance in many of the most useful of the arts, such as glass making, porcelain, bricks, &c., it is the only material known in chemistry out of which the soil could have been formed. It renders the soil porous and penetrable by the rootlets of plants. It allows the rains to descend into the earth to water the growing tribes of vegetables. The matter associated with it in largest mea-

sure is alumina,—familiarly known as clay; and these two constitute a bed in which the water holding the food of plants is detained sufficiently long without being kept about their roots permanently, as it would be in a bed of pure alumina. They form a perfect soil, so far as relates to the retention of moisture; but the clay and sand are but little concerned in the development of plants, and although essential ingredients in the soil, and forming much the larger part of it, if other elements had not been associated with them the earth would have remained a barren waste. Lime, in the form of a phosphate and a carbonate, enters into the composition of vegetables and animals, and to the latter is an indispensable article, since of it is chiefly composed their bony frame-work. Without phosphoric acid and lime, we are safe in saying there could not be any vegetable or animal life, and accordingly we find that these substances make a part, though often only a very inappreciable part, of every rocky bed. Potassa is equally indispensable to the maintenance and development of organized beings. Every part of plants contains it, and it is also a constituent of many animal secretions. So obscure was the origin of potassa and phosphoric acid, that for a long time physiologists were inclined to maintain that they might be created in the living organism by the powers of life; but at the present day this notion is entirely discarded, and no one now doubts that they are derived by plants from the soil. The crust of our globe, after we descend below the sedimentary deposits of limestone, shale, marble, &c., is formed of granite, a large proportion of which consists of felspar, and of this 14 or 15 per cent. is potassa. The source of this alkali is therefore perfectly evident. Chemists had more difficulty in detecting phosphoric acid, but Fownes has at length succeeded in showing that it exists in clays, and is a constituent of granite. Felspar, though an exceedingly compact and resisting rock, gradually crumbles down under the influence of the weather, by which the contained alkali is rendered soluble. The disintegration goes on so slowly that no more potassa is set free, from year to year, than is needful for the

support of the annual growth of vegetables; the wisdom of which provision will be seen when it is considered, that the alkali is easily soluble and would be wasted by the rains if disengaged more rapidly than plants were able to take it up; in consequence of which the land would become barren. The potassa thus imbibed with their water by vegetables is easily extracted from their ashes, and forms an article of the highest economical value. The price of soap and of glass, not to specify other products of human industry, would be enhanced many fold if the supply of potassa were cut off, as virtually it would be were we compelled to extract it from clays, instead of deriving it from the ashes of vegetables. It is the presence of this alkali in milk that keeps it fluid; when neutralized by an acid the milk coagulates; and since fluidity is a necessary condition of the food of young animals, it is clear that but for the existence of potassa in the earth, from which plants extract it, the preservation of the animal species upon the earth would be impossible.

Of the fifty-five or fifty-six elements known to the chemist, more than forty are metals, and while many are objects of great interest and value, not a few are possessed of such qualities that their wide diffusion through the earth would be a dire calamity. Carbonate of lime is met with as forming a portion of the rocky strata of most countries; the water used by the inhabitants of such countries running over these strata is highly impregnated with this inactive salt. Now suppose, in place of these limestone beds which cover millions of miles of our earth's surface, the external crust consisted of carbonate of baryta? Manifestly, the "pure antediluvian beverage" would have been rendered unwholesome by the presence of this compound, and the race of animals would probably, long since, have perished from the earth. In like manner, if arsenic had been extensively mingled with our soils or blended with the superficial strata of our globe, the result to animals would have been disastrous. But there is one metal so inoffensive in its character that it might safely enter into every soil. Belonging to this beautiful class of bodies is one without

which human society could never have become refined or powerful; without which art could not have attained its efficiency, nor science its marvelous elevation; without which fields must have been unskilfully tilled, and navigation limited to the humblest coasting excursions. It need hardly be said that we refer to iron, for our description is applicable to no metal but that:—a metal, which is not only the most valuable of the class, and incomparably so, but is at the same time much the cheapest—diffused more widely than our own restless race—piled up in mountain masses in many countries;—a metal which takes precedence of all others in many mechanical processes, because it is the hardest, the toughest, the most enduring. Iron is, indeed, a wonderful metal; naturally the plainest and the least showy, but susceptible of a lustre outshining all its kindred; the only metal which, by collision with the flint, emits fire; almost the only one which bears welding; the only native magnet, and nearly the only one in which magnetism permanently abides—forming the needle by which the mariner, in the darkness of the night and amid the fury of the storm, guides his barque in triumph to the distant haven; the only individual of this extended class which, in all its forms and combinations, is friendly as well as safe to the economy of animals, making one of the essential constituents of their blood, and for their health gushing in a thousand springs. It is curious that iron, which has been applied to so many purposes of usefulness and luxury, should have been found to be an efficacious antidote, and, in the present state of our knowledge, the only antidote, to arsenic; and still more curious, that it should turn out to possess the power of disarming even a more speedy poison of its virulence. As if not enough that iron should be "king of the prow, the ploughshare, and the sword," and the antidote to arsenic, it is endowed with the ability to divest prussic acid of its noxious qualities.

The human race was slow to discover the virtues of iron, and ages passed away before it was generally applied to the wants and purposes of civilization; but when it came to be searched for and extensively used men were surprised to find

how their convenience had been consulted in its distribution. Deposited in inexhaustible beds in the sides of mountains hard by the iron, are almost always found extensive coal fields; the metallic ore and the fuel being placed in alternate or contiguous strata. And often in the same neighborhood the limestone rock is found which is necessary in the extraction of the metal. This arrangement is so convenient, so wise, that it cannot be regarded as accidental; but we must conclude, that the hand which deposited the iron ore in the hills, laid down there also the strata of stone coal and of carbonate of lime, to be used by man, in remote ages, for separating the valuable metal from its dross.

The origin of these beds of coal is a problem which has greatly perplexed geologists; but whether we suppose with Adolphe Brongniart that they are the remains of plants which were necessary in the early stages of our globe to extract from the atmosphere the excess of carbonic acid, thus fitting it to become the theatre of the higher races of animals; or conclude that they consist of the combustible parts of plants which grew and flourished in an atmosphere having the constitution of the present one, no one can doubt that they are of vegetable origin; and as little can any one fail to see in these extended deposits of fuel a regard to the comfort of those who were to become the rational inheritors and lords of the earth. We say, no one can question that the coal fields, immense as they are in superficial extent, and rising thousands of feet in height, are the residuum of what were once living vegetables. Whether or not we shall ever be able to make out a satisfactory solution of the manner in which they grew, and perished, and were submerged, one layer after another, until the mass became mountainous, we are forced to adopt the belief that what is now the amorphous stone coal had once the delicate organization of plants. These perished in their season, and their parts, protected against the oxygen of the atmosphere, have taken on this shape. There they have reposed for untold centuries, a mine of energy and wealth for the human race; and when they are extracted by the miner

and submitted to the transforming force of fire, their elements are sent abroad once more to take a part in the business of life. Their carbon, uniting with the oxygen of the atmosphere, assumes an aerial form, and their hydrogen, combining with the same principle, ascends in the shape of invisible exhalation. This column of vapor rising from every fire is gradually condensed into clouds, and falls to the earth in fructifying showers; and the carbonic acid is also brought down again to hasten the growth of vegetables, to enter into their structures, expand in their green leaves, develope their fruits, and go abroad in the aroma of their flowers. The plants which adorned the earth when as yet there were probably no human eyes to enjoy their beauty, having slumbered for ages unknown, by this beautiful provision become once more active; and after warming us in the fire, and cheering our habitations by the light of their combustion, go back to the sisterhood of plants, there to pursue the round of growth, decay, and reproduction until it shall please Him who organized them in the beginning to summon them to their last repose.

It would not be easy to imagine any more conclusive evidence of design than is afforded by the perfect adaptation of the two organic races to each other, of which the arrangement just described is a beautiful example. By the law of diffusion the carbonic acid generated in the lungs, and which would remain in the cells there but for this law, presses out and mingles with the atmosphere. Its retention in the lungs would very soon become destructive of life; but its presence in the air is indispensable to the sustenance of vegetables. It forms not more than one part in every two thousand parts of the atmosphere, and yet the carbon in this, insignificant as it seems, amounts to more than that contained in all the existing forests, and all the beds of mineral coal in the earth united. In this gas is an inexhaustible store-house of aliment, from which vegetables may draw from age to age. During the winter season, when the forests are bare, and the fields no longer clothed in verdure, the carbonic acid, which is largely evolved by the respiration of animals, and the num-

berless forms of combustion in cold climates, is borne away towards the south by the prevailing winds, where a perennial vegetation stands ready to take up the excess. And, in this way, animals may be said to furnish a portion of the food to the plants by which, directly or indirectly, all they themselves are nourished. Nor is carbonic acid the only element of food which vegetables owe to the animal kingdom.

Among the products of vegetable life we find a class of bodies of exceeding interest to us, on account of their relation to animal nutrition. These are albumen, fibrin, and a third compound termed casein, which agree in containing azote. They are essential to animals, as composing the materials out of which blood is formed, and are justly styled the "elements of nutrition." Now, it is almost certain that plants do not derive this azote directly from the atmosphere, and the question arises, from what source then do they obtain it? Like the carbonic acid, the azote is supplied to them by animals. Animal substances in undergoing decomposition are remarkable for the generation of ammonia, a gas containing nitrogen as one of its constituents. We have only to conceive of the countless forms in which animal matter is perpetually exposed to this process over the wide earth, to have some idea of the extent of this supply. The ammonia thus exhaled without intermission into the atmosphere is dissolved by its hygrometric constituent, and brought down to the earth along with the rains. It percolates the soil, and is aspired by the plants, which decompose it and fix its nitrogen in their nutritious compounds. The contrast between the two living races is here most remarkable. The chemistry of one consists in building up organized compounds; that of the other in breaking these down. Vegetables imbibe ammonia and carbonic acid, and out of them fabricate the organic matter that animals must receive in order to subsist; animals appropriate these organic bodies to their uses, convert them "by a descending scale into compounds less and less complex, until at length they reach the inorganic condition, and once more become capable of assimilation by plants." And thus "a perpetual and unbroken

chain of vital phenomena is established, the products of one order of beings becoming the sustenance of the other." Dumas has very happily contrasted these opposite functions of plants and animals in his "Balance of Organic Nature," thus:

The Vegetable	The Animal
Produces the neutral azotized substances,	Consumes the neutral azotized substances,
———fatty substances,	———fatty substances,
———sugar, starch, and gum,	———sugar, starch, and gum,
Decomposes carbonic acid,	Produces carbonic acid,
———water,	———water,
———ammoniacal salts,	———ammoniacal salts,
Disengages oxygen,	Absorbs oxygen,
Absorbs heat and electricity,	Produces heat and electricity,
Is an apparatus of reduction,	Is an apparatus of oxidation,
Is stationary.	Is locomotive.

The exercise of the animal functions implies a waste of the materials of the body, and demands a perpetual supply of aliment. From the moment that the young animal begins to breathe to the close of its life, the parts of its body are in a state of incessant change. The secretions remove what has become useless; oxygen is absorbed into the system at each inspiration and converts a portion of it into water and carbonic acid, which escape every time the lungs collapse; muscular exertion and the very exercise of the brain itself in thought, are attended by changes in matter, as necessarily as the evolution of electricity in the galvanic battery is accompanied by solution of the metal. The supply of this never-ceasing wear of the animal body is derived from the vegetable kingdom; but until the subject was taken up by Liebig, chemists and physiologists entertained vague notions as to what were strictly the nutritious principles in plants. We have already mentioned that these are now conceded to be albumen, fibrin, and casein; and these remarkable products of vegetable life are identical in composition. It is upon these that animals subsist, whether derived from animal or vegeta-

ble food. Nutrition is the same in the carnivorous and the herbivorous tribes. All alike are nourished by these azotized bodies. The herbivora must consume more food to find the requisite supply of these principles than the carnivora are obliged to do, because the nutritious principles are concentrated in the food of the latter; but the elements out of which the blood and all the organized parts of the body are formed are the same in both.

But when we come to analyze the food of herbivorous animals more minutely we find that fibrin, albumen, and casein are associated with other matters essentially necessary to their comfort and their very existence. We find that along with these are sugar, mucilage, starch and oil, some of which their economy imperatively demands. In the grains so much relished by animals, starch is a much more abundant principle than albumen; in the grasses, sugar is the most important element. The young of the mammalia depend in the first periods of their existence upon the milk of the mother; and besides casein, the blood-making principle, we find in this fluid sugar or oil, and, in the milk of the herbivora, both. These take no part in nutrition, but they have another office to perform as important as that of developing the frame of the young animal. This is the maintenance of animal heat.

The food of animals, therefore, is not all nutritious, nor is the only object of eating the supply of the wasting tissues. A certain temperature is essential to the perpetuation of animal life, and this is preserved by a combustion within the body of a portion of what is taken into it as food. Alimentary substances are hence divisible into two classes;—*the plastic elements of nutrition*, or the azotized principles; and *the elements of respiration*, embracing sugar, starch, gum, the oils, and some others. The first, as already mentioned, have the same composition, and no difference can be detected between the fibrin, albumen and casein of vegetables, and the same elements as extracted from the animal solids and fluids. Taken into the stomach, and absorbed by the lacteals, these principles are assimilated to the animal economy without any

change in their chemical constitution. The fibrin and albumen of vegetables become the fibrin and albumen of the blood, and of the muscular tissue, and the brain of animals. The elements of respiration enter the system without taking part in its nourishment; they are followed by oxygen which passes through the lungs and combining with them converts their hydrogen and carbon into water and carbonic acid, animal heat being the result. If there be an excess of these they assume the form of fat, under the influence of a refined chemistry, and are deposited in the body as a store of fuel to be taken up and oxidized in seasons of scarcity, or when the increasing cold makes larger demands upon the calorific function. The nutritious elements also undergo this process of combustion, after they have served their end in the animal economy. The parts which have lost their vitality in the incessant round of changes are seized by the oxygen, resolved into carbonic acid, and in this way removed from the system where their presence would be injurious. And the effete tissues, which thus pass away to minister to the growth of vegetables, do not leave the animal system without further contributing to its comfort by liberating heat. As in our seas and rivers, oxygen is evermore engaged in removing impurities by a slow combustion; so in the animal economy it maintains this process without intermission, from the moment of birth to the end of our da .

But these organized elements of food are not the only materials, necessary to the development of animals, which we draw from the earth. Nobody now imagines that the female bird *creates* the phosphate and carbonate of lime, which compose the shells of her eggs. They are supplied by her food, and if this be wanting in them, the shells are soft. We have already adverted to the dependence of animals upon these salts of lime for the efficiency of their bony frame-work; and also to the importance of potassa to milk. Soda is found always combined with albumen, and is necessary to keep it in a fluid state. Iron is one of the constituents of the blood, and sustains such a relation to its health that we are safe in con-

cluding that the tone of the system could not be maintained in the absence of this métal. Sulphur and phosphorus are met with in the protein compounds, and take part in the animal organism. All these are drawn by plants from the soil. Potassa is extracted from the granite rocks, and soda from common salt, which is diffused everywhere; iron is separated from its ores, and sulphur from its salts. The vegetable, by a process of vital chemistry which we cannot imitate, combines them with its albumen and starch, its casein and sugar, and moulds them into the form most pleasing to the animal appetite, most conducive to animal health and vigor. And then a Providence, evidently considering the welfare of the human race, has kindly placed between man and the vegetable kingdom his domestic animals who live to collect for him the materials of his food. The grass which nourishes his sheep and oxen contains all that is requisite for his nourishment; but he would die of starvation if driven to subsist upon grass. His cattle go abroad over his fields, gleaning from all wholesome herbs the principles which make his blood, and invigorate his frame. He thus has leisure for study and the cultivation of his nobler faculties.

It would be a waste of time to insist that in all these relations of the living races to the earth and to one another, there are indisputable evidences of a beneficent controlling Mind.

These evidences are everywhere to be seen, but, to adopt the closing thought of this admirable essay, nowhere throughout the whole creation is the goodness of the Almighty more conspicuous than in the means he has provided for revealing himself to his intelligent creatures, by conferring upon them these powers of discovering truth, and of appreciating its beauty and loveliness.

The "*Actonian Prize Essay*" is worthy of a place beside the very best of the Bridgwater Treatises. Its scientific details will interest every reader, and its noble moral reflections elevate and warm his heart.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Characters of Broussais and Baron Larrey. By Reveillé-Parise. *Broussais.*—Entering life amidst the turbulence of the French Revolution, the early part of the career of Broussais was stormy and uncertain. Soldier, corsair, hospital-clerk, navy-surgeon, student, civil practitioner, and lastly, military surgeon in the Napoleon campaigns, his existence was destitute of repose. Nevertheless, robust in body, firm in determination, and gifted with great aptitude for work, he pursued his studies in spite of every fatigue and difficulty. He eventually came to Paris and became a pupil and an intimate of Bichat, and an ardent admirer of the opinions of Pinel. His treatise *Des Phlegmasies Chroniques*, which had cost him immense labor, fell almost still-born from the press; but, although he felt the disappointment in the keenest manner, he concealed it, and pursued his indefatigable researches in Spain and Italy, examining thousands of bodies, accumulating a vast mass of facts, and meditating over them for years.

It was in 1815 that he commenced his private course. It was only two paces from the Faculty that he cast forth his haughty defiance and raised altar against altar, doctrine against doctrine. From the first he announced himself as a reformer of science, proceeding by physiological demonstration to a complete rebuilding up of the structure of medicine. And let it not be supposed his course resembled any other of this kind, that is a simple and calm exposition, methodically elaborated, of the principles of the art. No, it was literally a true arena where the professor fought alone and to the death. It was on his part an exhibition of harshness and frankness, an aggressive and ill-boding discussion of received theories, a continual explosion of recrimination against the science of

formerly and its constructors, a constant affirmation of his own doctrines, a haughty and disdainful treatment of those of others—the like of which had never yet been seen. Then, the choleric argument, the passionate tone, abrupt gestures, the thundering voice of the professor, and his animated countenance, for he always seemed as if illumined with inspiration, added much to the effect of his addresses. The numerous and crowded auditory kept the deepest silence, the more as their attention was always, so as to say, enslaved, because it was continually excited. * * * * Broussais joined to a great penetration a very cultivated mind; and thus we may remark in his lectures, in his reiterated appeals to the progress of science, a skilful mixture of truth and error, a certain art of presenting the latter with the probabilities of reality. Although exclusive in his ideas he announced solid principles. Not content with observing and collecting many facts, he knew how to compare them, and deduce from them consequences often strained, but at other times undoubtedly just. To consider science under aspects until then unknown; to open a new horizon to ulterior researches in the study of diseased organs; to state his principles in an exact and precise manner; to reduce them to the rigor of a theorem; such was the end he proclaimed, and which he flattered himself he attained. So much knowledge and application, such high pretensions, united to the fire of conviction which seemed to animate him, to that ardor of proselytism, to that perseverance in self-glorification, to that fanatical esteem of his system, perpetually announced as the complete *resumê* of the entire range of medical truths, gave to the lectures of Broussais an astonishing popularity. Auditors crowded and pushed their way to them as to a theatrical amusement, and, more than once, pupils, who were unable to gain admission, might be seen taking their notes in the sun or rain when the loud tones of the professor allowed them to seize the purport of some of his observations.

In 1815 his *Examen* appeared. In this, the opinions of his adversaries were handled with the bitterest sarcasm and irony, and his own doctrine developed with surpassing skill. His success was prodigious. Not only were his dogmas received with enthusiasm by the schools, but even the convictions of elder practitioners were much shaken; so that the advent of a new era of medicine was proclaimed on every side. The deceptive simplicity of the system, and the magical words "progress," "advancement of science," "new doctrine," contributed immensely to its popularity; and those

who dared to attempt to oppose its reception were covered with terms of reproach and contempt. It is not surprising that Broussais became intoxicated with the incense constantly poured out before him, and imagined himself exalted into supreme judge of what should or not be received as sound doctrine. Yet, at the end of a few years, it was discovered that he, like many other reformers, was more potent in criticizing and destroying present structures than in raising new ones; and that the system of the man who had been so ready of visiting those of others with sarcasm and contempt, was not itself proof against the shafts of the critic. Remarks, criticisms, exceptions, and objections now multiplied on every side; but we need not follow the exposure of the errors of a system which never obtained much currency here, notwithstanding the Gallomania which some of our Journals endeavored to foster. M. Parise exhibits concisely not only the unscientific character of the principles laid down, but the bad effects which too frequently flowed from their practical adoption; for a practice which had been borne by the robust young soldiers coming within the sphere of Broussais' observation, was ill-suited to the feebler constitutions so often met with in civil practice. Once submitted to a rational examination, the system rapidly declined in estimation; and even when in the possession of an official professorship its constructor could not raise it from the neglect and disfavor into which it had fallen. His vehement denunciations against the older systems no longer drew the crowded auditories of heretofore, and the few pupils who attended his lectures seemed to do so more as a curiosity of by-gone days than as a reality of the present. Whether from faith in its truth, or from the desire of drawing upon himself the attention which had so notoriously flagged, Broussais next became a propagator of phrenology. Again he had a large and applauding, if not a judicious auditory: "but the concessions he made to his adversaries were so numerous, that Gall would hardly have recognized his own doctrines in his discourses." He adopted for the defence of this the same paradoxical arguments, the mixture of error and truth by which he had sought to defend the doctrine of irritation. It will not seem surprising that Broussais only attained a rank in the practice of the profession very disproportionate to his merits and reputation. His exclusive mode of viewing cases so limited his range of therapeutical indications, although the force of circumstances sometimes obliged him to make concessions. One of those related of him is amusing enough. A patient having declared to him that he could sup-

port his regimen no longer, and that he was literally dying of hunger, Broussais reflected for a moment and replied, "Very well, you carnivorous animal, I will satisfy you," and ordered him a spoonful of broth in a glass of water. However, concessions of any kind were wrung from him with difficulty, for he prided himself upon his inflexibility to objections or adversaries. Nevertheless, after venting the most bitter sarcasms on places and riches, he allowed himself to accept some of these, and the great agitator was found lecturing in the professor's gown, and placing six lines of honourable titles after his name in one of his works!

Regarding Broussais with impartiality, uninfluenced by the excessive praise of his admirers or the bitterness of his detractors. we shall find he was a man of rare capacity and incontestible merit. It will be allowed that he has rendered services to science and has proclaimed truths which will endure. Nevertheless, if he appears great, the narrowness of his views is striking when compared with those of Bichat. This is because he was too exclusive, too absolute, in his ideas, because he has forcibly referred facts to two or three principles only, that is to eitner too few or too many, and because he has, with a view to his system, proclaimed the true and the false with an equal ardor. In the place of pruning, adding, and extending, he was desirous of radically destroying and re-constructing; and, at a period when doubts were raised, he struggled for the most formal materialism. Thus, although he has shed a luminous ray on science, although he proclaimed himself its master, his opinions have been attacked, his pedestal shaken; and his titles to true glory strongly contested. What remains of him now? Has Broussais done what he ought and could? Has he fulfilled his mission worthily and completely? Posterity, that high court of appeal for reputations, will decide in time to come. She will be just, yet severe; for, according to Scripture, 'much is required of him to whom much is given.'

Larrey.—The character and services of Larrey are so well known and appreciated in this country, that we need borrow little from the sketch here drawn by his friend and colleague. It is always, however, pleasing to accumulate instances of the excellent conduct of the members of our profession; and we question if the *beau-ideal* of a military surgeon was ever more realized than in the character of this celebrated man.

At the battle of Eylau he remained 30 hours without eating; and so hurried and ardent was he in dressing wounds

and giving orders, that paralysis of the bladder was nearly induced. Friends, enemies, every one, might claim his services. He saw only suffering creatures imploring the succor of art. Degree of rank in nowise decided his preferences. No matter what the epaulette, he only saw the wounded man, whose blood, poured out for his country, was equally noble and precious. After having operated on Marshal Lannes, and visited Duroc, the intimate friend of Napoleon, he would dress with equal eagerness the wounds of the lowest soldier or the conscript of yesterday. His colleagues even, always his dearest friends, never met with preference. Our hononable *confrêre*, M. Tanchou, tells us that, when wounded in the battle of Montmirail, he was taken to Larrey's *ambulance:* 'Your wound is a slight one,' he said, 'we have only room and straw here for bad accidents. However, they may put you in yonder stable.' The gravity of a wound was in fact the only ground of preference in his eyes. * * * * * * * * The more severe and doubtful an action became, the more the activity and resources of this great surgeon multiplied—his first and only thought being the succor of the wounded. During the highest raging of the battle of Waterloo, when the fire was continuous and murderous, the author of this sketch and Larrey met, when he exclaimed, 'My dear colleague, look to your wounded soldiers. Pay attention only to them.' He added, 'the firing is hot indeed, but let every one do his duty and all will go on well. * * * * * Larrey had so little dissimulation, that one of his defects, perhaps the only one, was the high opinion he entertained of his own talent and works. He praised himself with such a good faith and confidence, but his weakness was the more excusable, as it was not without foundation, facts answering to words. Frequently a deep colossal pride, peculiar to celebrated men, is disguised without, and hidden with care; but Larrey concealed nothing. All his thoughts and words were without disguise, for he knew not how to conceal his pride at the bottom of his heart, like some who are termed modest. Oftentimes he raised a pedestal to himself with the same simplicity, the same confidence, as if he had performed the most virtuous action or the greatest sacrifice. We may sometimes smile at his simple and frank want of modesty, and at the same time admire his noble heart full of rectitude, honor, probity, and courage, a stranger to the manœuvres of personal interest, concealed under the veils of philanthropy and love of science. What he delighted in, above all things, was to protect and assist others by his coun-

sels and his credit; so that he always regarded surgeons whom he had known, and who were a little younger than himself, as his pupils. In writing to the late M. Coutanceau, then professor at *Val-de-Grâce*, Member of the Academy, and author of different works, he never omitted concluding with 'your affectionate brother-in-law and former professor.' This was not pride or the desire of superiority, but a bond of patronage, good-will, and reciprocal attachment, which he delighted in tightening and continuing.'

In perusing the accounts of the lives of late and present members of our profession in France and in our own country, we have often been struck with the far larger proportion in the former nation who have raised themselves from indigence and comparatively low conditions to the highest position of professional eminence. And in the facilities which that country affords to her industrious and enterprising youth, destitute of family connections, pecuniary resources, or hospital influences, for attaining the highest offices in her power to bestow, we see an example well worthy of imitation in our own country, where a very different system of selection, or rather of succession, prevails.—*Med. Chir. Rev.*

Flogging in the British Army. From Marshall's Military Miscellany.—Our author has fully described the manner in which the various military punishments, including flogging, are carried into effect in our army. As a matter of course, we must refer the curious reader for details to the original. All that we shall do is to pick out a few passages, that may be supposed to have some interest in a medical point of view. When a man is to be flogged, he is, after stripping himself to the waist, tied to a machine termed a triangle, his hands being pulled up to the top of it and there secured; cords are passed round the upper part of the thighs, and the ankles. At other times, the delinquent is lashed to a gun-wheel or a tree. The amount of suffering from the punishment then inflicted may depend a good deal upon the manner in which the prisoner is secured. If the ligatures are too tight, the hands may become quite black and benumbed—the numbness continuing for several days—from the stoppage of the circulation; this arises partly from the man's hanging on, as it were, by the hands. If, again, they be too loose, he is liable to move and wriggle about from side to side, by which means the *cat* falls on unsuitable parts, as the ribs, the neck, or even the face and eyes.

During the last war it was very common to flog upon the breech, and sometimes on the calves of the legs, when the back and breech were unsound from former inflictions. Flogging on the breech is said to be more painful than on the back, probably in consequence of the greater sensibility of the extreme parts of the body.

The first stroke of the cat, says Dr. Marshall, occasions an instantaneous discoloration of the skin from effused blood, the back appearing as if it was thickly sprinkled with strong coffee, even before the second stroke. Sometimes the blood flows copiously by the time the first fifty or one hundred lashes are inflicted; at other times, little or no blood appears when two hundred lashes have been inflicted. During the first one hundred and fifty or two hundred lashes, a man commonly appears to suffer much, considerably more, indeed, than during the subsequent part of a punishment, however large it may be. The effused blood in the skin, or, perhaps, some disorganization of the nerves of sensation, seem to occasion a blunting of its sensibility, and thereby lessen the acuteness of the pain arising from the application of the cat. Left-handed drummers, whose cats are applied to a portion of sound skin, and drummers who have not been sufficiently drilled to flogging, spread the lashes unnecessarily, and excite an unusual degree of pain. Delinquents frequently call out to the drummer to strike higher, then lower, and sometimes alternately.—*Med. Chir. Rev.*

The Medical Profession—Quackery.—The monster evil, of a social kind, which affects the medical profession, is the general poverty of its members; no further proof of this need be adduced than the immense number of qualified assistants, who are everywhere ready to take service at less salary than that obtained by ordinary clerks, or even the superior classes of servants. The numbers of the profession, relative to the general population, is frequently complained of, and none can deny that the legally constituted bodies have most reprehensively suffered pretenders to medical knowledge to spring up on all sides of the regularly educated practitioners of every grade, many of them armed with degrees which may be had for mere purchase, and which are in no wise a test of medical proficiency. But setting aside, in a great measure, this source of mischief, we believe that the legitimate funds which should of right be contributed by the nation to the medical faculty

would be amply sufficient to provide for every respectable individual in this country, having any title, legal or otherwise, to call himself physician, surgeon, or apothecary.

The profession is robbed, not by thousands, or by tens of thousands, but by hundreds of thousands sterling, annually. This may seem startling at the first blush, but let us consider the modes in which the funds, which should enrich the profession, flow into illegitimate channels; consider how the public, the other professions, and the government, trench upon its rights, and it will no longer be matter of doubt. Take the sums paid annually to knavish pretenders, who are impudently engaged in practice without the slightest show of right; add to this the sums taken by prescribing druggists; add again the yearly sums paid by the public for patent medicines; to these add the immense sums by which the profession is underpaid by the government for services rendered to the state, or by public bodies, as in the case of the New Poor-Law Commission;—take these, and numerous other items, into consideration, and it will be seen that we have not dealt in figures of speech, but in plain figures of arithmetic.

The obvious mode of relieving the profession of that poverty which these and other causes have rendered so prevalent, is to raise the qualification for practice by raising the standard of medical education, and rendering it penal for unqualified persons to engage in practice. Then, this good effected, the boundaries of the profession must be enlarged, by a close examination of all those points in which the evident functions of the medical faculty are performed by other persons; and this scrutiny must be followed by a determination to assert the rights of the profession. To show our meaning, we need only refer to a few points which, together with others, we shall have hereafter to consider seriatim. There is the quarantine system; the office of coroner; and the entire range of medical statistics: the regulation of lunatics and lunatic asylums; sanatary commissions of various kinds:—all these departments of the public service ought, if the public welfare were alone considered, to belong to the domain of the medical faculty. These things belong to us of right and justice, and can and may be had for the asking. The profession is like a big boy at school who has been set upon by his fellows, but who has only to put out his strength to take at once his proper position.

The monster cause of poverty and degredation is quackery; and this we confidently believe could not exist in its present rampant state but for the countenance afforded to it by members

of the profession. Often, indeed, this is done, without improper motive,—unsuspectingly, in fact, though the bane is not the less. Low views have crept in, and the very highest members of the profession often give direct and indirect aid to empiricism, without dreaming what they do. They will recoil from the consequences of their own act when placed nakedly before them. It will be a grand object to separate legitimate medicine from quackery. When this can be done, quackery by itself is such a monstrous bubble that it must shrivel of itself to nothing. But until this is accomplished, legislation will be in vain, and quackery will continue respectable. We shall begin the task by putting our finger upon every glaring or covert professional of empiricism open to observation, not, meanwhile, sparing the unprincipled public quacks themselves. If this separation were effected, and quackery stood bare to public scorn, the profession might then ask for the abolition of patent medicines; till this is the case, the proposal will only be met by ridicule.

Time will show whether the great objects we have proposed are attainable in the present day; whether the professional boundary may be so enlarged as to include a vast amount of emolument and honor now absorbed by extra-professional persons, and whether the immense funds which are at present diverted into improper channels may not be regained for the profession.

Professional opinion, and the action born of strong opinion, are the powerful levers which must be moved to effect these things. It may be a difficult task, but in our labors we shall be animated with a bold hope for the issue.—*Lancet.—Med. News.*

New Method of Preserving Organic Matters.—At a late soirée, held by the Marquis of Northampton, Dr. Silvestri, physician to the Royal Hospital at Naples, and chief physician of his majesty's guard of honor, exhibited several preparations made according to a method discovered by him. By this process organic matters are perfectly preserved, being converted into a substance possessing the hardness of stone, and admitting of being polished. Among the preparations shown, were a portion of human liver, a section of a kidney, a section of a testis, and some hands and heads. In these specimens the texture was perfectly apparent when examined with a magnifying-glass, but the substances themselves had

acquired the hardness and resonance of stone. The head of a ram possessed the stony hardness peculiar to these preparations, while the ears and hairs retained their natural softness and pliability. Birds, submitted to this process, retain their feathers uninjured either in color or pliancy; fishes are coated by a kind of transparent varnish; and the cornea retains the transparency of life. Dr. Silvestri has also succeeded in preserving flowers in the same manner, the petals retaining their natural hues, and the stem and leaves their pliancy and verdure. He gives the following statement of the applications of his discovery:

An entire corpse, without being injured in the slightest degree, can be brought to a consistency appreoaching to petrifaction, and preserved for an infinite period in full perfection of form, with the hair, nails, &c. Like a statute, it can also be placed in any given position, as illustrative of individual character or station.

Animals of every species, from the elephant to the insect, are susceptible of being reduced to the same state of consistency and preservation. The plumage, fur, wool, and all other adjuncts of nature, remain entire, retaining the same color, firmness, and flexibility that they had at the moment of death.

The same result can be produced in the single parts, organs, &c., of any organic animal body, without undergoing any alteration whatever, even though injected previously to the operation.

All the objects in question may be petrified in such various degrees of intensity as may be judged necessary for the purposes of dissection, observation, examination, &c., with perfect freedom from stench, and all else of an objectionable nature, either when handled, or preserved as objects of curiosity.

Flowers and plants can be preserved unchangeable, with their colors, form, leaves, and stems, as if just gathered.—*Lancet.—Medical News.*

Poisoning with Arsenic.—MM. Maresk and Ladoe have ascertained that when a pregnant woman is poisoned with arsenic, the arsenic may be transmitted to the fœtus. In an official investigation of a case of this kind, they discovered traces of the poison in a fœtus at the fourth month. The uterus and the placenta also contained arsenic, but the pla-

centa contained a proportionally larger quantity than the fœtus. The liquor amnii contained no arsenic, at least the quantity, if any, was inappreciable.—*Bull de la Soc. Med. de Grand.—Med. News.*

Treatment of Diabetes Mellitus by Balsam of Peru.—Dr. VAUHES reports in the *Journ. des Connaiss. Med. Chirurg.*, a case of diabetes mellitus cured in five weeks by balsam of Peru. The medicine was given in the dose fifty drops four times a day, and increased to five drachms daily.—*Medical News.*

Death from the Effects of Cold Water Treatment.—The London Lancet, for August, 1846, contains an account of a patient who was killed by the improper use of cold water, also the trial and conviction of the doctor for man-slaughter. It seems that the patient had congestion of the lungs, and applied to the Hydropathic Institution kept by one Dr. Ellis, who pronounced it a case of hepatitis of the sub-acute character, and put him in the sheets wet in cold water, which caused his death in a short time.

Upon making a post-mortem examination the lungs were found to be in a highly congested state, which was no doubt much increased by the application of the cold water treatment, causing the death of the patient; but the liver was not diseased, as the hydropathic man had said.

It is a great pity that some of the evils of this catch-penny system in this country, could not be brought to light. They tell of all their successful cases, but we never hear of their bad cases, by them. The idea of taking a delicate female with disease of the heart, or any other disease, it makes no difference with them, and placing her in cold wet sheets, and obliging her to drink four or five tumblers of cold water three times a day, is too absurd for sane people to believe to be the best mode of treatment; yet we find many following the plan, whom we believe to be sane on all other subjects. Cold bathing is an excellent thing for those in health, and should be used daily, but not in the manner that it is by the hydropaths. But as to drinking cold water, we should be very careful, for all kinds of drinks taken in excess are injurious to the system.—*New York Med. and Surg. Rep.*

Hooping Cough.—At a meeting of the Medical Society of London, held Jauuary, 1845, Dr. Waller stated that he had recently employed the extract of belladonna, in two cases of hooping cough with the best results. He gave it, in the dose of one-twelfth of a grain, three times a day to a child four years of age. In these cases there was simply the spasmodic cough, without any indication whatever of the existence of inflammation. Mr. Crisp remarked, that in the majority of cases, he had found the antiphlogistic plan of treatment to be the one best adapted to the early stages of hooping cough. He viewed the disease generally as inflammatory, or at all events congestive. Contrasting the antiphlogistic treatment (leeches followed by blister and the use of tartar emetic) with that which he had formerly pursued, he had every reason to be satisfied with the change he had made. The prussic acid he had usually found to be of service only for a day or two.

Dr. Wiltshire had treated, at the Infirmary for Children, simple uncomplicated hooping cough with two or three emetics of ipecacuanha—one every morning or second morning—followed, for two or three days, with nauseating doses of antimony, and had found this plan of great service in the early stages of the disease. Hemlock and ipecacuanha were of benefit afterwards in relieving the cough. With respect to belladonna, he was fearful of its employment, for notwithstanding the evidence in its favor, adduced by some of the German physicians, others had found that this medicine had a tendency to increase vascular action in the brain, and to produce hydrocephalus.

Dr. Chowne laid particular stress, in the treatment of hooping cough, on the necessity of keeping the patient in a warm temperature, and using every means to prevent his taking cold—nauseating doses of ipecacuanha, he considered to be frequently of benefit. With reference to the production of emphysema by hooping cough, he did not believe it possible.

Dr. Clutterbuck viewed the disease as one of a specific character, resulting from a specific cause—it was a specific inflammation of the bronchial membrane, but apt to induce inflammation of other organs, as the lungs or head, and it was these complications that constituted the dangerous character of hooping cough. He had little confidence in any remedy for this affection. The disease should be narrowly watched, with the view of prevention, rather than of active treatment—if mild, nothing was necessary to be done, it would terminate

spontaneously—if inflammation of the brain, lungs, or other organs was threatened, antiphlogistic measures were demanded.

Dr. Golding Bird regarded hooping cough, in its first stage, as invariably an inflammation of the bronchial tubes, larynx and trachea, of a specific character, and implicating, in some peculiar manner, the par vagum. This inflammation lasted for a definite period, which is influenced by constitution and other causes. In its second stage, the disease is *nervous*—the specific irritation of the *par vagum* being kept up, altogether independent of inflammation; or when this is present it is merely accidental: the disease is afterwards kept up by the influence of habit. In the first stage the remedies for bronchitis (emetics, diaphoretics, the warm bath, and a warm temperature) are advisable. When the inflammatory stage is passed, attention should be directed to subdue irritation in the par vagum by narcotics—such as conium, in conjunction with carbonate of potash, hemlock, and hydrocyanic acid. Embrocations to the spine and chest are also useful. When bronchorrhœa becomes troublesome, small doses of alum, with sedatives, are of advantage. When the bronchorrhœa has ceased, tonics are indicated—the kind of tonic to be determined by the constitution of the patient. Emphysema does not occur as the consequence of hooping cough.

The president of the society had found in some cases where belladonna was given, that the poisonous, rather than the curative effects of that remedy developed themselves, even though the doses administered were remarkably small. With reference to the irritation of the par vagum in hooping cough, he related a case in which this nerve had become exposed, from the formation of an abscess, or other cause; and it was remarkable, that when the nerve was in contact with the air, a spasmodic cough resembling that of pertussis was produced: when the nerve was covered over by a cicatrix, the spasmodic cough ceased.

Dr. Golding Bird remarks (Guy's Hospital Reports, April, 1845,) that, in the second or nervous state of pertussis—after all inflammatory symptoms have subsided; and when, with a tolerably cool skin and clean tongue, the patient is still distressed by the more or less copious secretion of viscid mucus from the bronchi; each attempt to get rid of which, produces the exhausting and characteristic cough; no remedy will be found to act so satisfactorily, or to give such marked and often rapid relief to the child as alum. He has not yet met with any other remedy which is equally efficacious. Dr. Bird

generally gives the alum in doses of from two to six grains in children of from one to ten years of age, repeated every four or six hours. For a child of two or three hours, he employs generally the following formula:

℞ Aluminis gr. xxv; extr. conii gr. xij; syrup. rhædos. ℥ij; aq. anethi ʒiij. m. Dose a medium sized spoonful, every sixth hour. Dr. B. has never met with any inconvenient stringent effects on the bowels during its exhibition; on the contrary, in more than one instance it produced, he says, diarrhœa. The only obvious effects resulting from its use were, diminished secretion, and of a less viscid mucus, with a marked diminution in the frequency and severity of the spasmodic paroxysms.—*Trans. Phila. Col. Phys.*

Aconitum Napellus in Neuralgia. By ALEXANDER FLEMING, of Edinburgh.—I have met with several cases of neuralgia, in which the individual had, for weeks or months, been in the habit of procuring sleep, and a temporary cessation of pain, by opiate draughts, and who, on using the Aconite, obtained permanent relief for the disease.

Exhaustion by alcohol is the best mode of obtaining an active preparation of the plant. Cold water takes up but little of its virtues; and the expressed juice contains only a portion of its active properties; while the latter are entirely destroyed by exposure of the drug, in any of its forms, to a high temperature. These circumstances are explained by the fact, that Aconitina, the active principle of the plant, is soluble in alcohol, but not in water, and is decomposed by much heat. *Boiling in water, if long continued,* is sufficient to deprive the plant of the power of producing numbness and tingling (Geiger); but Dr. Christison has ascertained that this property is not diminished by a heat of 212°, in drying the plant, or in preparing an extract from it.

These facts account for the variable strength and frequent inertness of many of the preparations formerly in use, such as watery extracts, expressed and inspissated juices, &c.

Tinctura Aconiti.—Take of root of A. Napellus, carefully dried and finely powdered, sixteen ounces Troy; rectified spirit, sixteen fluid ounces; macerate for four days; then pack into percolator; add rectified spirit until twenty-four ounces of tincture are obtained.

It is beautifully transparent, of the color of sherry wine, and the taste is slightly bitter.

Extractum Alcoholinum Aconiti.—This is prepared by distilling, at a low temperature, the spirit from the tincture, until the consistence of an extract has been obtained. The process should be completed in a vapor bath.

Its color is dark brown, or almost black; it has an agreeable smell, and bitter taste. The dose is one-third of a grain, thrice daily, commencing with one sixth of a grain.

I prefer the tincture for external administration, from its greater uniformity of action. The method of administering it varies according to the object in view.

As an *anodyne*, *anti-neuralgic*, and *calmative*, five minims ought to be given at first, three times daily, to be increased daily to the extent of one minim each dose, until the physiological effects described under the second degree of operation have been produced.

As an *Antiphlogistic*, five minims ought to be given at first, and repeated in four hours; by which means the second degree of operation will, in all likelihood, have been induced. In order to sustain the sedative action thus developed, two and a half minims are to be given every three or four hours; or less frequently, according to the effect produced.

Where this mode of administration is adopted, it is *absolutely necessary* that the patient should be seen, and his pulse examined, before the exhibition of each dose. When this cannot be done, the remedy may be given in the manner pointed out for its use as an anodyne and calmative.

The *best method* of administering the remedy in *diseases of the heart*, is to give it in smaller doses than those recommended for its use as an anodyne, but more frequently repeated, as three or four minims five times daily.

Sickness may be avoided or checked by an effervescing draught, administered with, or immediately after, the dose.

The long-continued use of Aconite occasionally renders the patient less susceptible of its influence, in which case the dose must be gradually increased.

This very powerful medicine ought to be used with great caution. Like digitalis, it is cumulative in its action, and after a few days of repose exhibits itself in alarming power. In neuralgic affections it is acquiring much celebrity.

Billet-Doux to Baron Liebig.—Letter addressed to Baron Liebig, Professor at the University of Giessen. By MM. LAURENT and GERHARDT.—*Monsieur le Baron:* You have just published a brochure, in which you have attacked our labors in the most injurious manner.

You are at liberty, doubtless, to find our labors to be bad, and you may also attack us in a style at which any well bred man would blush; you alone are responsible for your own expressions.

But you have no right to calumniate us; you have no right to designate us forgers, highway robbers, to say, in the face of the world, that in order to refute your theories, to expose your errors, we have deceived the Academy of Sciences, in presenting to that body, on the 22d September last, experiments which do not exist, which we never made.

Were you a Frenchman, Monsieur le Baron, we might call you to account for these calumnies, before the legal tribunals, for those experiments were made in Paris, in the laboratory of M. Pelouze, for the most part in the presence of M. Pelouze, or his pupils, and upon substances furnished by that chemist, and also in Montpelier, in the laboratory of the Faculty of Sciences, partly with materials furnished by M. Pelouze, and partly on products prepared in the latter laboratory, and which were shown to many persons, amongst others to the Dean of the Faculty.

This will serve to show the value of your assertions.

Since your being a foreigner insures you impunity, we have no other resource against you than an appeal to public opinion; we beg you, therefore, Monsieur le Baron, to have the goodness to give our reclamation its right, by retracting your words and to accept our *salutations empressées.*

AUG. LUARENT,
Corresponding Member of the Academy of Sciences.
CH. GERHARDT,
Professor to the Faculty of Sciences, Montpelier.

London Lancet—Med. Ex.

THE WESTERN JOURNAL.

NEW SERIES.—VOL. VI.—NO. IV.

LOUISVILLE, OCTOBER 1, 1846.

EDITORIAL LETTER.

CINCINNATI, Sept. 15, 1846.

TO MY COLLEAGUES—*Gentlemen:*—I fear you will repent of having desired me to send you something for the forthcoming number of our Journal. Not that I am likely to write anything offensive to you or our readers, nor anything injurious to the health of their or your patients, nor anything which, by *warming* up the feelings of either, would add to the intolerable heat of the season; but simply because I have nothing of much importance to say, and shall not, therefore, be able to write anything which can interest our readers.

COUP DE SOLEIL.

Every 'now and then' our newspapers announce a death from 'sun stroke,' but not being 'physician in ordinary' to the 'sovereign' people, I have not had the good fortune to see any of the victims;—in fact, have never yet seen a patient of that class; nor one fatally affected from drinking cold water on a hot day. Why is it that 'our brethren' who are called to such cases do not report them? All our journals abound in 'cases' of disease of daily occurrence, too many

of which present but little that is new; while nothing is rarer than a reported case of sudden death from either of the causes to which I have referred. The close of a long and burning summer seems to be a proper time for presenting this subject to the profession, and I beg leave, therefore, to request such of our readers as have seen cases of the sort to report them, either for the Journal, or as contributions to a work on which I am engaged.

TYPHOID FEVER.

I have lately assisted in the *post-mortem* examination of two patients, who died after several weeks of illness, with symptoms answering very well to Louis' description of Typhoid Fever, and *not* answering to the symptoms which characterize the typhus fevers which I formerly saw prevailing here. Both the patients were men in the earlier periods of middle life, and both were 'new comers' here; reminding one of the class of patients in the practice of Louis. In one, the inflammation of the glands of Peyer extended along the lower five feet of the ilium, and for half that distance towards the cæcum they were in a state of ulceration. The lowest four inches of the small bowels presented ulceration of the intervening mucous membrane as well as of the elliptical patches, and the parietes of the tube were greatly thickened. In the other case, this thickening did not take place, and the consequence was the sudden death of the patient, after the fever had nearly ceased and he seemed to be convalescent. His physician, one of my friends, left him in the evening with a pulse at 72, but soon after reaching home was recalled. The patient had been suddenly seized with extreme pain just above the symphysis pubis. As yet his pulse was not much affected, but by morning it had become small, weak, and frequent, and his skin was covered with a clammy sweat. I saw him in the afternoon, when his abdomen was slightly tympanitic, his pulse thready, his countenance Hippocratic, and he was ejecting fluids from his stomach, by a kind of hiccup, or paroxysmal regurgitation, precisely similar to that which brings up the fatal black vomit of yellow fever. At two o'clock the next morning he expired. On opening the abdomen, a quantity of serum and lymph, colored with feculent matter, was found in the right iliac region and pelvis. The omentum was engorged and cemented to the intestines, which were covered with soft

intumuciform lymph. On further examination we found a circular perforation of the ilium, large enough to receive the quill with which I am writing, about two feet above the ilio-cæcal valve. It had occurred in the centre of an ulcerated elliptical plate, and not the least effort had been made by the *vis medicatrix* to thicken or sustain the peritoneum, at that point. It did not even present any hyperæmia. A number of the glands of Peyer were inflamed, and several of them ulcerated; but the lesions were not of such extent but that the patient might have recovered, had not the perforation led to a suddenly fatal peritonitis. It is worthy of record, that the attending and consulting physicians of this patient, both highly intelligent and respectable members of the profession, suspecting, from the general symptoms, an affection of the glands of the ilium, had made repeated examination of the ilio-cæcal region, and the patient always answered that there was neither pain nor tenderness. It is also deserving of record that in our post-mortem examination of the other patient, in whom so much ulceration existed, extending, as I may here add, into the cæcum and colon, we found, in the intestines, the usual quantity of healthy fæces. The two facts taken together show, that absence of pain and soreness under pressure and the presence of healthy alvine discharges, may coexist with fatal lesion of the glands of Peyer; and that the diagnosis of such cases, is, therefore, of a very doubtful and uncertain kind. How many other cases of the same sort with these have occurred in the 'Queen City' this summer, I cannot say; but, from what I have heard, I suppose there have been several. Indeed, just before the death of these patients, I was called into consultation, by one of our most promising young physicians over a gentleman, of nearly the same age with the other two, who had manifest symptoms of an acute *typhoid* fever, with decided, even peritoneal affection, of the right iliac region. The early loss of fifty ounces of blood, which was buffy, arrested the disease. This fever I suppose to be of the same kind with that which has prevailed, more or less, for several years past in the interior and oldest settled parts of Kentucky; and may be among our *increasing* diseases. If so, it is entitled to great attention;—just as an invading army should be more vigilantly watched than one which is retreating. If, with the 'progress of years,' typhoid fever should replace our autumnal remittents, we should not, I fancy, gain very much by the change. I wish it were possible, (in a successful and pointed manner,) to direct the attention

of our readers upon this form of fever; and especially upon its connexions with autumnal fever, which seems frequently to modify, and be modified by it. Can any one tell whether those cases of remittent bilious fever, which, in their latter stages, exhibit typhoid symptoms, are accompanied by lesions of the ilium?

THE SUMMER.

It should be recorded that the present summer has been one of unusual heat and rain. I say *present*, for although it is now the middle of the first month of autumn, the thermometer still rises to 85° and 88°, and even 92°. Thus the heat has not only been intense, but protracted. Howbeit, so frequent and copious have been the showers, that the 15th of September never before presented the forests which overshadow the hilly ramparts of the Ohio in deeper and healthier green. In fact, the frequent falls of rain have counteracted the fervent heat—fruits of all kinds have been abundant, and the withering effects of drought are nowhere to be seen. In the diseases of the city and surrounding country, there has not, as far as I know, been anything remarkable.

QUACKERY.

The Queen City seems to have prostituted herself to the foul embraces of empiricism. Behold the gorgeous and glittering TEMPLE OF QUACKERY. On its dome there sports a gigantic black snake, fit emblem of cunning; and a silly coot (still fitter emblem of credulity,) is fluttering into the opening jaws of the wily fascinator. Let us enter the upper halls of the mansion of imposture.

Turn to the east; there is the den of the '*Reformed Medical College of Ohio*,' where doctors are manufactured out of the *raw* material. (N. B. The wool may be either coarse or fine, black, white or grey: the rolls warranted equally good and of the same size.) Now turn to the west; there is the den of the rival "*Eclectic Medical Institute*," whose lathe can *turn* dunces into doctors, and not destroy the natural grain of the wood! The worthies who labor in these precious estalishments agree in one thing only, that of slandering the regular profession; beyond this, they show their impartiality by villifying, that is, telling the truth on, each other. I am meditating a plan by which to give a new impulse to their honorable emulation.

It is my good fortune to possess the only copy, in America, of a rare book of 1200 pages, published in London, in 1693, under the following comprehensive title:

"*Seplasium: the Complete English Physician; or, the Druggist's Shop opened. Explicating all the particulars of which medicines at this day are composed and made. Showing their various names and natures, their several virtues, preparations, uses and doses, as they are applicable to the whole art of physic, and containing above six hundred chemical processes. A work of exceeding use to all sorts of men, of what quality or profession soever; the like not hitherto extant. In ten books.* By WILLIAM SALMON, Professor of Physic, near Holburn Bridge, London. *Multa multuraque.*"

Now, the possession of this scarce and extraordinary work, by either the Reformed College, or the Eclectic Institute, would at once establish its supremacy over the other; and I hereby offer it as a premium to the one which can in the shortest time transform a hostler into a doctor; the prize to be adjudged by a committee of *gentlemen.*

Let us descend to another floor of the temple. Here, in an out-of-the-way corner, is the STEAMERY. But how deserted! Its fires are smouldering, and the distillery of 'No. 6' dribbles only *guttatim;* and yet the supply is equal to the demand. Compelling a sick girl to drink a quart of lobelia and then a gill of the tincture of red pepper, in a single night, while lying surrounded with ears of boiled corn, and winding up in the morning with a dose of 'No. 3,' is no longer the fashion: such methods of curing an inflammation of the brain or stomach are now condemned by the Court of Empiricism; and it has been discovered that a very different plan should be pursued. Let us enter the magazine where the new munitions are elaborated. But hold! We can't get in! It's a mere closet, with tiny boxes, and pills of the size of a millet seed at the end of a dry summer. A millionth of a grain of the extract of aconitum napellus in each box! A tenth of the ten millionth of a drop of the juice of atropa belladonna in that little vial. One pill in the morning, and one drop of the solution at night! No more steam polypharmacy! No more drenching, stuffing, and pistoning with herbs and roots. *That* was all very *vulgar—this* is very *refined:* suited to the character and constitutions of ladies and gentlemen—the learned and intellectual—above all, to the convenience of clergymen and pious ladies—whose pocket magazines will enable them to dispense

to the poor, and to such of the rich as may be ashamed to visit the temple of quackery. Thus will the blessings of HOMŒOPATHY, like honey dew, fall equally on the leaves of the towering yellow poplar —*softest* of trees, and the humble elder—*greenest* of shrubs.

But let us pass on to another kennel. Its walls and ceiling and floor are wet and cold; but don't feel afraid to enter. You may have pleurisy, or rheumatism, or consumption; but "never mind"—sit down and receive the cold douche, or lie down and wrap yourself in the cold and dripping sheet. 'Steam' and hot 'chunks' *used* to be the *proper* remedies, but the college of quacks has made a new degree. In the days of Moliere, it could only transfer the liver from the right side to the left. Send round the book of HYDROPATHY. Let your friends be warned against all family physicians—all regular doctors, with their pedantic prescriptions and long bills! Be equally on your guard against homœopathy. Rely on water only and alone. Nothing can live *without* water—and nothing can die *with* it.

But we must move on to the next kennel, and a very genteel and quiet place it is. Look at the simplicity of its furniture—a chair and sofa. No steam baths—no cold water baths—no bundles of leaves and bark—no jugs of 'No. 6;' not even the miniature vials of homœopathic elixir, are allowed to profane the mysterious dormitory! Its very air is etherial—its light magnetic; and spiritualities gambol in the beams like gnats in the purple rays of the setting sun. All is intellectual and sublime. But let us come to the work. The necromancer takes his chair; the necromancee her sofa—their eyes meet each other,—he darts a magnetic glance—her eye-lids fall,—a quiver agitates her lips, and she softly reclines, in sleep of body but not of mind. 'A change has come o'er the spirit of her dream.' Her soul, disengaged from its frail tenement of clay, explores the caverns of the earth, and the lowest pools of the great deep; descends into hell, then rises to heaven; and, bringing tidings from both to him who thus set her free, is prepared, at his bidding, to enter the foul abodes of disease in the bodies of foul men, inspect the foul organs, with prying eyes, and report to her master the hidden cause of every foul infirmity. The patient thus inspected may now be placed under treatment. Put him on the sofa—let the doctor point his finger to the disordered organ—keep quiet till he gives the healing glance, and all will then be well. But we must not linger in this spiritual saloon, when so many *spirituous* kennels remain unexplored in the

basement below. See how the *dogeries* are ranged around—lighted only by lamps—and labelled over every door 'No ADMITTANCE.' These are the secret vaults. What strong odors fill the air. Look at the inscriptions of the different doors:—"CHALLENGE TO THE WORLD!—*Dr. Cullen's Indian Vegetable Panacea.*" "THE GREAT MEDICINE OF THE DAY—*Dr. Swayne's Compound Syrup of Wild Cherry..*" "COONS! COONS! COONS!—*McKenzie's Corn Destroyer.*" "ALL OPPOSITION VAIN—*Bristol's Compound Syrup of Sarsaparilla.*" "GREAT CURE FOR CONSUMPTION—*Dr. Duncan's Expectorant Remedy.*" "BY THE QUEEN'S PATENT—*Triumphant Success of Buchan's Hungarian Balsam of Life.*" "NEW DISCOVERY —*Zanone's Hair Powder.*" "*Jayne's Life Preservative and Expectorant.*" "FEVER AND AGUE, CHILL FEVER, [redacted] AGUE, INTERMITTENT AND REMITTENT FEVERS, AND ALL THE VARIOUS FORMS OF BILIOUS DISEASES SPEEDILY AND THOROUGHLY CURED, *by Dr. Osgood's India Cholagogue!!*" "SALTER'S GINSENG PANACEA—*The great remedy for Coughs, Colds, Influenza, Bronchitis, Asthma, Consumption, Pain in the Side and Breast, and all other Affections of the Lungs.* APPROVED BY THE FACULTY OF THREE CONTINENTS." Reference to twenty-seven gentlemen and ladies in Cincinnati, including "DR. DRAKE!"

But what means the sign over that retired and central cell? A quill from the wing of a crow—cunningest and blackest of birds! Let us peep through the key-hole. Ah! there sits the scholar of all the subterranean kennels. See how nimbly his fingers move, and look at the sibylline leaves as they fall from his pen—infallible boluses—dulcified panaceas—tasteless catholicons—warranted specifics—renowned, restorative regenerators—reproducers of teeth in old age—universal resuscitators from every kind of apparent death! All attested and dignified by the names of eminent physicians and surgeons, now in their graves—Hunter, Cullen, Buchan, Wistar and Rush. And look at the blank certificates, ready to be filled up with spurious or forged names, by the manufacturers in the surrounding kennels! A discount to those who purchase by the ream; and no additional charge for filling up, to those inventors who do not know how to read and write.

Such, gentlemen, is a hasty sketch of the Temple of Quackery, which graces the Queen City. If its priests who minister at its altar are many, its votaries 'may be called legion.' They are no longer

the uneducated and vulgar, but contrariwise, the cultivated, affluent and refined. In the midst of the attendance of well qualified and respectable physicians, both gentlemen and ladies have the nostrums of quacks smuggled into their apartments. Invalids have their carriages stopped half a square from the door of an empiric, and sneak to it on foot, lest some one (who is perhaps at the same time under the care of another quack) should chance to see them. Many, however, have grown quite shameless, and avow their preference of empiricism over science. Its harvest is undoubtedly very great; for those who follow it grow rich, while many deserving physicians 'live but from hand to mouth;' and others, too proud to grapple with knaves and impostors for the patronage of an *enlightened* community, are retiring to the country, and intend to give up physic for farming.

When I began this epistle I thought of some other matters on which I might say a little, but as you are undoubtedly tired, and "so am I," they will be kept back for another letter, till when,

I remain your obedient servant,

DANIEL DRAKE.

DR. HARRIS'S CIRCULAR LETTER.

We take great pleasure in making room for the following circular addressed to his brethren by Dr. Harris, whose zeal in advancing his profession is worthy of all praise:—

BALTIMORE, August 22, 1846.

DEAR SIR—The undersigned is engaged in preparing for publication a *Dictionary of Dental Science*, a work which is evidently much needed, and which he hopes to present in such a form as will commend it to the general use of the profession.

In the hope of eliciting information of an important character which your observation and experience may enable you to give, and with a desire to furnish you with an opportunity to make known any improvement in the dental art or discoveries in dental science, made either by yourself, or by others known to you, which have not yet been promulgated, the undersigned respectfully solicits an early answer to the following queries:

First. Have you knowledge of any deceased dentist or dentists,

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

VI. No. 5

EDITORS.

DANIEL DRAKE, M.D.,

PROFESSOR OF PATHOLOGY AND THE PRACTICE OF MEDICINE
IN THE MEDICAL INSTITUTE OF LOUISVILLE:

LUNSFORD P. YANDELL, M.D.,

PROFESSOR OF CHEMISTRY AND PHARMACY IN THE SAME:

THOMAS W. COLESCOTT, M.D.

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THE

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OF

MEDICINE AND SURGERY.

NOVEMBER, 1846.

ART. I.—*An Essay on Scrofula, submitted to the Medical Society of Tennessee at its annual meeting in May,* 1846.* By W. L. SUTTON, M.D., of Georgetown, Kentucky.

When we reflect on the immense amount of suffering occasioned by Scrofula in its endless variety of forms,—that from a sixth to a fourth of the human race is carried off by it, a sufficient reason why it should be regarded by the medical profession with intense interest, becomes at once evident. We accordingly find that some of the brightest geniuses in the profession have spent much time in investigating its causes, nature and treatment. After the labors of a Laennec, a Portal, a Louis, an Andral, a Lugol, a Carswell, a Stokes, a Graves, and various others of equal standing in Europe, to say nothing of their compeers in our own country, it would seem

*NOTE.—The Medical Society of Tennessee awarded to this Essay a premium of fifty dollars.

that little could be left to be learned; or if anything were left, that the hopes of success were faint indeed after they had failed. But the importance of the subject is so great, the benefit resulting from any improvement in correctness of views, either of the causes, pathology, or treatment, so widespread, that we are imperiously required to continue our research, notwithstanding all discouragements. Nothing was ever made by despair; on the other hand, circumstances which, upon full examination, have appeared utterly hopeless, have yet been retrieved by perseverance, aided by well-directed efforts. In this state of the case, not pretending to know more of the disease than my fellows—on the contrary, duly sensible of the difficulty of the undertaking, and of my own inability to do anything like justice to the subject, I yet propose to offer a few remarks upon this important disease. I do this because, although I am not able to offer anything new respecting the complaint, yet if I look at the subject in a light in any degree different from others, or even arrange my ideas in trains somewhat different, even that may have the effect of stimulating the enquiries of others, and good may result. I have reason to hope, then, from the difficulties admitted to belong to the subject, and the liberal feelings of the profession, that this humble effort of an obscure member of the profession may be received with indulgence.

It not unfrequently happens that words, even professional words and phrases, are taken in very different lights by different members of the profession. Perhaps this is as true of *Scrofula* as of any other word or phrase. It is important, then, that each man delivering his opinions upon this subject should take some pains to show in what sense he understands the term; and it is equally important that his readers should keep the writer's definition in view, else, whilst reading, he may apply the terms to states of the system very different from that which the writer intended.

I shall divide my subject into three heads, *Scrofulous Diathesis*, *Scrofulous Affections*, and *Scrofula.* I am fully sensi-

ble of the objections which lie against this division, as well as the difficulty of keeping the heads separate; yet am I equally sensible, that some such division is necessary, and that, in the main, this division is right.

As regards the scrofulous diathesis, I apprehend I shall not differ from those who recognise its existence as distinct from scrofula itself. It is usually marked by thinness and delicacy of skin, having a sufficiency of redness, perhaps, but yet a tinge of white not altogether agreeable to the practised eye; a thickening of the upper lip and of the columna nasi, also of the edges of the eye-lids; eyes very frequently blue, the conjunctivæ covering the scleroticæ, having a tinge of the same color; with usually a want of firmness of the muscular parts of the body, or rather, perhaps, a slight intumescence and want of firmness in the adipose substance. There is frequently an enlargement of the joints (particularly of the fingers, the ends of which are enlarged or clubbed); with a real or apparent diminution of the shafts of the long bones; a tumid abdomen; an inability to endure much bodily fatigue.

Such, in general, are the features of the scrofulous diathesis; but we find a strong tendency to scrofula in persons in some respects differently marked; for instance, we see those of dark skin, and black hair and eyes, frequently suffer with the disease.

Such persons, whilst this state of things continues, cannot with propriety be said to be diseased, much less to have scrofula. Under a favorable of train circumstances, they may even pass through life without becoming diseased. Yet such persons certainly are more liable to have the disease produced by a train of unfavorable influences than others. Therefore, we say that they have a scrofulous diathesis, tendency, or predisposition.

Scrofulous Affections.—On the score of diathesis, I do not presume that there will be any controversy; but I am not sure that I shall have the united suffrages of the profession upon what I shall say respecting scrofulous affections. By this

phrase I mean certain disorders occurring in those of a scrofulous diathesis, which, although not in themselves indicative of scrofula, are more apt to arise in such habits, or are materially modified by this diathesis.

In this class I put certain eruptions of the scalp or skin in general, lice in the head or upon the body, intestinal worms, imperfections in various parts of the body, malformations, inflammations, &c. All of these affections may occur in persons who are not scrofulous; but some of them are much more apt to occur in persons of that tendency. We see a child with a dirty, scurvy head, and say the mother is a slut, and careless of her children. It may be true. It may however be true that the head of that child is affected with a scaly disease, which requires a great degree of care to keep it in tolerable order. Lice may be found in the head of any child; but it has been known from time immemorial, that some children are much more infested with them than others. Upon noticing such children, they will generally be found to have the characteristics of the scrofulous diathesis. The remark applies to those infested with intestinal worms. So true is this, that a thick upper lip, tumid belly, and pallid countenance, are, in popular estimation, constantly associated with the idea of worms. These, however, are amongst the most constant attendants upon this predisposition. We will find, too, by careful and extensive examination, that various imperfections of the body, as hare-lip, spina bifida, &c., although not confined perhaps to the scrofulous diathesis, are much more apt to occur in habits of that character than in those of the reverse. In the course of the last eight or nine years I have attended at the birth of two anencephalus infants, and in each case there was a scrofulous taint in the family. I do not now remember a single case in which I have operated for hare-lip, where there was clearly no such taint. On the contrary, in some cases, it was decidedly evident. In every case, too, of spina bifida, which has come within my knowledge, there has been good grounds for suspecting such a predisposition. The same was true of a case which I saw in which there was a de-

ficiency in the walls of the abdomen, constituting what, for want of a better name, I called a *spina bifida of the navel.* This coincidence is the more remarkable, because in this community scrofula is by no means a frequent disease, compared with its prevalence in other countries.

Inflammation is not, I think, more apt to occur in scrofulous habits than in others; perhaps even less so. Still it may occur in such habits without, as I conceive, scrofula being present. I am fully aware that many, perhaps most physicians will be disposed to question this. I shall, therefore, take some pains to be understood upon this point.

Inflammation, when once set up, has a termination by resolution, effusion, suppuration or gangrene. If it end in resolution or gangrene, we are not apt to suspect scrofula; but suppuration or effusion may attend scrofula. The question then occurs, is there any difference in the course of inflammation occurring in scrofulous habits, and that formed by scrofula? I think there is. We have an abscess formed, upon the neck if you please; upon its being opened, it discharges what surgeons call a laudable pus, a yellowish white fluid of uniform consistence and color, so far as it is unmixed with blood, and of a consistence something thicker than cream. This case I should call one of *simple inflammation*, if it occurred in a habit untainted by scrofulous diathesis—*scrofulous inflammation*, if in one thus tainted. It may be asked, why in one case I call it simple, and, in the other, scrofulous inflammation? I answer, that although very similar, the cases are not identical. That which occurs in the scrofulous constitution will be found to be materially modified by its presence; there will be more tumefaction, less heat and pain, and the process of suppuration and cicatrization will be more tardy than in an inflammation producing the same quantity of pus, occurring in a healthy constitution. Abscesses thus originating, although longer in healing, are not apt to degenerate into ill-conditioned ulcers. A person of a strumous diathesis may have abscesses of this kind at divers times, yet not have scrofula developed in his system. But I was about to shew the distinction, in my

opinion, between the product of *scrofulous inflammation*, and that of *tubercular inflammation.* Instead of the pus above described, tubercular inflammation produces a pus of unequal density, a part being made up of curdy, flaky, or granular portions, the remainder of a fluid more or less serous. One portion being decidedly more consistent than healthy pus, the other as decidedly less so. This difference, I hold, is caused by the presence of tuberculous matter along with the product of inflammation. It will be observed that I have used the terms *scrofulous* inflammation and *tuberculous* inflammation in contradistinction. I am not aware of any authority for so doing. So far indeed is this from being the case, that writers upon scrofula define by scrofulous inflammation just what I propose to define as tubercular; leaving what I call scrofulous inflammation undesignated, or rather confounding it with the other. Thus, 'in the commencement of scrofulous disorders, it deserves also to be remarked, that the inflammation which occurs has often so great a resemblance in its symptoms to simple inflammation, as to render it difficult, if not impossible, to distinguish between these two states.' [Thompson on Inflam. p. 106.] Again: 'The pus in these (scrofulous) abscesses is often serous and curdy, though in many instances I have found it quite healthy in its consistence and color.' [Ib. p. 128.] In the first quotation there is an implied acknowledgment of a difference between simple inflammation, and that occurring in 'scrofulous disorders,' with a directly acknowledged difficulty in marking that difference; in the other, there is, I think, a confounding of two states materially different. At least there is no attempt to show any cause for the different effects resulting from the same cause. I shall, therefore, give my reasons for it. I think it necessary that there should be a term distinguishing inflammation as occurring in scrofulous habits, from that occurring in those usually denominated healthy. It is true, we might use the phrase 'inflammation occurring in the scrofulous diathesis.' But this would be more circumlocution than we would like to repeat often. I have, therefore, proposed to appropriate to this state the term

'*scrofulous inflammation.*' But it is necessary to have a term designating that inflammation which occasionally accompanies scrofula, properly so called; I propose to apply to it the term '*tubercular.*' Not that tubercular is different from scrofulous, iflammation, but that both these states occur in scrofulous constitituons, one necessarily implying the existence of scrofula, the other only a predisposition to it. Just as we have words in English which have come to mean distinct things, though originally there was no difference—e. g. *transfer* and *translate.* So, too, we have a want of precision in some professional terms, which ought to be obviated. I will instance the phrase 'compound luxation,' which is used to signify two states very different—one a luxation of a joint, attended by a fracture of a bone connected with that joint, as of the ulna or fibula, in luxations of the wrist or ancle; the other a luxation attended with protrusion of a bone through the integuments. If this distinction should not appear satisfactory to my reader, I hope, nevertheless, he will keep it in mind, and when a more satisfactory nomenclature shall be invented, I shall always be ready to adopt it.

Scrofula.—By scrofula I mean the formation of tubercular matter on or in some part of the body. Whenever tubercular matter is produced upon any of the mucuous surfaces, or in any texture of the body, then is scrofula present. Before that takes place, there may be a strumous diathesis, or scrofulous affections; but scrofula, properly so called, is not developed. I know full well that some of the highest authorities in the profession are against me as to this division, at least a fair interpretation of portions of their writings would so indicate. Yet are there others of equal authority which countenance this as the true definition of scrofula. Further, some of those who appear against it, at other times appear to recognise it. Thus Lugol, who certainly appears to have paid as much attention to this subject as any other man, and who ought to have clear ideas upon it, says in a lecture delivered at the Hospital St. Louis, on *tubercular scrofula:* 'This is un-

doubtedly the most important form of scrofula; tubercles coexist with all other forms of scrofula, they are the emblems of the disease—they are scrofula. We can only say that the existence of this vice, whatever it may be, is always congenital, and is always revealed by the development of tubercles; in fact, this production is scrofula itself, its anatomical and pathognomonical sign; this alone characterizes it and gives value to all the other symptoms.' *Lugol on Scrofula, preface, p.* 9. West. Jour. Med. and Surg. vol. 5, p. 285—from New York Medical Gazette. Again: 'Now *tubercles* and scrofulous *inflammation* occur very continually in the *same individuals.*' *Watson's Prac. p.* 112. 'A scrofulous abscess will form in the glands of the neck, and pus and tubercular matter will be discharged.' Ib. p. 116. Again: 'Next tuberculous or strumous disease is extremely common in the digestive organs.' Ib. p. 117. Again, Alison, as quoted in Cooper's Surgical Dictionary, says: 'In most cases in which scrofulous diseases are fatal, the diseased action is in internal parts, and the first symptoms are obscure and equivocal. The chief and certainly most characteristic appearances on dissection are tubercles in different stages of their progress.' Page 294. Lastly, MM. Rilliet and and Barthez, in a work upon the diseases of children, said to be of great merit, have labored to 'prove the *identity of scrofula and tuberculization.*' Med. Chir. Rev., Oct., 1845. By *tubercular matter* I mean 'a pale yellowish or yellowish gray, opaque, unorganised substance,' frequently of the appearance and consistence of half-dried mortar, at other times in small particles mixed or suspended in pus.

Causes of Scrofula.—Having, as I hope, given a clear exposition of my views on the division of the subject, I will now speak of the causes. First, I will take up hereditary descent as a cause of scrofula. That children are sometimes born with scrofula upon them, I am well satisfied; but most commonly they only receive from their parents a predisposition more or less strong. Whilst admitting the existence of a

predisposition inherited from parents, I must beg leave to observe that I think greatly too much stress is laid upon it, as a cause of disease. Thus Lugol: 'So deeply does scrofula modify the whole organization, that persons afflicted with it may be considered as a variety of the human race.' Lect. Hosp. St. Louis—West. Jour. Med. Surg., vol. 5, p. 285. Those, too, who have read his late work on scrofula, will be aware that he inculcates forcibly the opinion that the disease is transmitted by hereditary descent; that a man free from the disease cannot acquire it himself, but may acquire a predisposition and transmit the disease to his offspring, who, of necessity, transmit it to theirs, until in three or four generations the family becomes extinct. In a population where scrofula is very common, it is perhaps more difficult to arrive at correct ideas as to the precise influence of particular causes, than where it is rare. It so happens that I am acquainted with the history of one family for five generations, which, it appears to me, throws some light upon the influence of some of the causes of scrofula. D. C., having enjoyed good health, lived to the age of 109 years. His wife, also of good general health, died at an advanced age. Their son, D. C. 2d, died middle-aged of bilious colic, leaving a number of sons. His wife, in good health, lived to an advanced age, having raised all her children, one of whom was an infant at her husband's death. Thus far, there is no appearance of any form of scrofula, nor of any of the causes which are enumerated as giving rise to a predisposition. Of their children, 1st, J. C. married and lived to middle age, a healthy, stout, industrious, and ambitious man. After a hard day's work on a hot day, (a heavy rain and considerable diminution of temperature taking place in the evening,) he took cold, and afterwards died of consumption. His wife, E. C., is now alive, aged about 55, in good health. He had two children who died of consumption. One born before the day's work which was supposed to have caused his death, the other after. He has a son now 35 years old, stout and in good health. 2d. C., now 75 or 80 years old, active and in good health. His family healthy, no chronic dis-

ease among them. Several other brothers lived to the ordinary rates of life, without any manifestation of scrofula. D. C. 3d, is now about 65 years old, married and had eight children. Of these, three are now alive, of the ages of 36, 34, and 18, in good health. One died when young of a violent injury received; one at the age of 35, of ulceration of the bowels, occurring in typhoid fever; one at the age of 34, of consumption; one at the age of 20, of consumption; and one at the age of 17, of consumption. Of the eight children, three only have married, two of whom are now dead; one of these lived in wedlock eight years, leaving two children, now 5 and 7 years old, in good health; the other lived in wedlock four years, leaving one son, now 4 years old in good health. The third married into a family tainted with scrofula, has five children apparently healthy. The mother of these eight children died suddenly at the age of 55, having, as was supposed, labored under a hepatic derangement for a long time, say from the age of 30 up. For a number of years prior to death, she enjoyed an improved state of health. She had been affected, however, for a number of years with what appeared, from its history and condition when I first saw it, to be an enormous bronchocele. Her sister, who also was wife to J. C. above named, is now alive, about 55, and also affected with a similar tumor, but not so large. Several of the children of D. C. also have had slight enlargement of the thyroid glands. They live, however, in a locality where that affection is more general than in any other region within my personal knowledge.

The father of these two Mrs. C.'s, Mr. H., lived to the age of 85 years, having generally enjoyed good health. For about fifteen years before his death, he had been sensible of a tumor of the size of a filbert in the middle of the right side of the neck, supposed to be an indurated cervical gland. About six months before his death, this tumor commenced enlarging very rapidly, and at his death, which appeared to be caused by it, it was nearly as large as his head, having pushed the trachea very much to the left, the thyroid cartilage being in a

line with the left ear. Before death he had expressed a wish that it might be removed after his decease. I complied with his request, and found the tumor to embrace full half the calibre of the thrachea, notwithstanding its displacement, and to enclose completely the right carotid and subclavian arteries. This tumor was mostly of a cartilaginous consistence; in part approaching suppuration; but in no portion of it was there anything of a tubercular character. His wife, Mrs. H., is still alive, about 80 years old, and as healthy as persons of that age can reasonably expect to be. In addition to the two Mrs. C.'s, they had one son, now about fifty years old, who has suffered extremely with rheumatism, having been confined to his bed for eight or ten years at one time with it, and again for the last five years. Nothing of a tubercular character having affected him at any time. He has raised a large family of children, who, thus far at least, have enjoyed good health. His wife died five years ago, having previously requested that her body might be inspected after death, in consequence of several of her family having died similarly affected. Accordingly the late Prof. Richardson and myself attended to that duty. We found her liver enormously enlarged and diseased, a large amount of fluid in the abdomen and also in the thorax. The stomach externally appeared healthy, but on the internal surface, near the pylorus, were two tumors, one as large as half a walnut, the other as large as half a nutmeg. Lungs healthy; no appearance of tubercular matter anywhere. I have introduced the history of this family because it comes to me in a perfectly authentic form, and extends farther back than we can often trace families with certainty; and because it appears to me to bear on several points respecting hereditary diseases. My opinion is that scrofula is very generally transmitted from parents to offspring; but I do not believe that the child of a scrofulous father or mother will *necessarily* be scrofulous; nor that a child, whose father and mother are free from the taint, will *necessarily* escape scrofula. Children generally have a greater or less resemblance to the father or mother, and the child that resembles the father will be more liable to be affected with that dis-

ease to which the father is more liable. The same principle is true of that child which resembles the mother. If, then, both father and mother are liable to the same disease, the children will be very apt to suffer from it. But it occasionally happens that a child does not favor either of the parents. Such child will be less likely to suffer from any disease to which the parents may be predisposed. Or if both parents are healthy, he may by his conformation be born with a predisposition to some disease, till then unknown in the family. This will readily be admitted by certain physiologists as to the reputed parents; but they will say that it is not true of the real parents. Thus M. Lugol in such cases calls in the aid of adultery to maintain the truth of his theory. Some men have very little confidence in the chastity of females; and Lugol, residing where adultery is confessedly common, may be excused for his scepticism. In this country, however, cases of *crim. con.* are very rare, and I am satisfied that adultery is not the besetting sin of our ladies, yet the same facts are observed here as at Paris. Neither do I see why we should reject a law respecting mankind which is known to be true as to brutes. We will take for example the hog. A male and female will produce a litter of some eight to twelve. It may be that the whole litter will resemble the sire in form; or it may be they will all resemble the mother; or a part may favor one, and a part the other; or, again, they may partake of the form of both. It is quite likely that some one or more of the pigs may be found in each category. Again, now and then a pig is found having no appreciable resemblance to either. By taking advantage of such cases, and using some care, a man can in a short time completely change his breed of hogs, without any extraneous cross. The same is true of other animals.

But certain conformations and appearances of the body are found to be attended by predisposition to certain diseases; and as such conformation is similar to that of the parent, and as the parent is liable to the same disease, the predisposition or the disease is said to be inherited from the parent. This is

as true of some other diseases which are not considered hereditary, as it is of scrofula. The family to which Mrs. H. above mentioned belonged, was predisposed to hepatic disease. I have seen a number of families in which, I was clearly satisfied, the same affection was transmitted from parent to child. Again, a certain conformation is known to predispose to apoplexy. A son frequently gets this conformation from his father, and with it a liability to the disease. But nobody considers hepatic disease or apoplexy as hereditary. This principle is very clearly elucidated in the history of various females brought forward by Lugol in his work on scrofula, in which various members of a family are found affected, with not only the same disease, but in the same form, and affecting the same parts.

It will be seen, that whilst I believe that very generally scrofula is transmitted from parents to offspring, I do not believe it to the same extent as some others. I do not believe that a man is necessarily scrofulous because his father or mother and divers brothers and sisters are so; nor the converse. I have endeavored also to give my rationale of the matter. Whether there is any difference between my views on this point and those of others, I am not prepared to say. In the family, the history of which is detailed above, there is no appearance of scrofulous affections for three generations on the father's side, and none for two on that of the mother; unless the bronchocele should be so considered. This affection was at one time generally considered scrofulous; but I believe the opinion is losing ground. There is a region of country in this vicinity in which bronchocele is quite common; and it certainly appears in persons who have no appearance of scrofulous taint. It is also true that there lived a family in that region which appeared predisposed to scrofula, none of whom, so far as my knowledge extends, was troubled with this tumor. It may be noted, however, that the two daughters of Mr. H. were affected with it, and each had children who died of consumption. But it may be remarked further, that the tumor of which the father died, at the time I saw it, only a few days

before his death, resembled very strikingly those on the necks of his daughters, only being greatly larger. It is possible, too, that in the daughters these tumors may have commenced in some situation other than the thyroid gland. His tumor differed also from theirs, in remaining long stationary, and then growing very rapidly; and also in showing some disposition to ulcerate. It is true, however, that the children of Mrs. S. C. who had swellings on their necks, had them in the situation of the thyroid gland. None of those thus affected have shown any disposition to consumption or any other form of scrofula. Now did those children of D. C. and S. C., who died of consumption, get their predisposition from their parents? I think not; and this opinion is, I think, justified from the facts detailed. With the first who died, I had little acquaintance, and will therefore say nothing. The second was decidedly leucophlegmatic in temperament, a good deal disposed to bloat, digestion bad; apt to be troubled with flatulence; menstruation came on tardily and imperfectly. She appeared to be improving under the use of iron and iodine, when she was seized with a violent attack of typhoid fever, from which she imperfectly recoved only to have pulmonary consumption fully developed; from which she died in six months. The third did not appear to be so much predisposed, but was of slender delicate frame, and appeared to have contracted her disease from exposure to cold.

But it is said that a man who has never been affected with scrofula, or even predisposed to it, may have a predisposition generated by various diseases, as syphilis, &c., and that children born of such parents, after such event, will have scrofula developed in them; whilst those born previously will not. Lugol, in his work on scrofula, gives several instances in which the disease was transmitted in this way. I must confess, however, that I do not appreciate the force of his reasoning. In the first place, to say that a child inherits from his father that which his father never had, appears to me very much like a solecism. Again, if the transmission is of a specfic character, it seems to be wrong. We know that a man may

have syphilis and be, to all appearances, cured, yet transmit that disease to his offspring, but not scrofula. Lugol's opinion appears to be different, if I understand him correctly. And lest I should misrepresent him, I will quote his words: 'But some years afterwards, his habits became dissipated; at that time, whilst exhausted and syphilitic, having also infected his wife, he had a third, who was born scrofulous.' Lug. on Scrof., p. 100. 'Syphilitic cachexia and after it scrofulous cachexia, have progressed much more rapidly in Spain, because the venereal disease has been generally neglected there, or is treated by remedies too inert to produce a radical cure.' Ib. 230. The same sentence is repeated on the 232d page. How these passages, as well as the general scope of his observations in his article on the syphilitic origin of scrofula, tally with the following sentence at page 167, each reader will judge for himself; for myself I must acknowledge they do not appear to me to agree very well: 'Scrofula also has relations with syphilitic diseases, and very frequently with erysipelas; but all the relations it may have with these diseases are only complications; they may favor its development, but it is certain they can never produce it.'

I can very well imagine that the injury inflicted on the constitution by protracted syphilis, and by the treatment necessary to cure it, may leave the body in a condition favorable to the evolution of scrofula; but I do not see how it would cause it of necessity; and I must repeat, if I have received his idea correctly, it is not in accordance with the experience of the profession in this country. If, however, it is meant that the constitution may be so much injured as to bring on premature decay, I agree to the proposition. Children born after this, may be of an imperfect organization—*may* be predisposed to scrofula, or *may have* it developed; but I do not believe they will *necessarily have* scrofula. I shall hereafter have occasion to express my opinion that the improper employment of mercurials is a very powerful cause of the development of scrofula. And it is not at all unlikely that much

of the blame thrown on syphilis in this matter, is in truth due to the remedy used to eradicate it.

The excessive use of mercury is, I think, a more frequent cause of scrofula than a syphilitic taint. It is well known that an inordinate use of that mineral will produce a leucophlegmatic appearance of the face, attended with tumefaction of the lips and face generally. A superabundance of white tissues is developed, and a deterioration of the red globules takes place in the blood. Frequently, too, there is some tumefaction of the abdomen. In short, a state is produced very analogous to a strongly marked scrofulous diathesis. A person whose general health is good, may have this state produced, and it may pass away without the production of the disease; but if the powers of life are languid, he will run considerable risk, if this state continues any time, of having his health permanently injured, and scrofula may be produced. During the late mania in the use of calomel many persons had their health ruined; and not a few had scrofula developed, in whom no other assignable cause appeared.

Somewhat similar to the effects of undue mercurialization, are those of excessive bleeding, whether practised for the cure of disease, or as occurring in the form of hemmorrhage The consequence of great loss of blood is necessarily a want of a due proportion of red globules. The same anemic appearance takes place as is observed after excessive salivation. Indeed there is so great a similarity between the two states, that they may be considered identical.

There are numerous other causes which produce imperfect sanguification, and therefore are more or less active in predisposing to scrofula; but it is scarcely necessary to enumerate them, as I hope the principle which I wish to inculcate is sufficiently evident.

No *age* can be said to be exempt. The fœtus in utero is found affected, and the man of old age is occasionally afflicted. The disease is, however, more commonly met with from the age of two or three years to that of thirty or thirty-five. Although any form of scrofula may appear at any age, yet some

forms are met with more frequently at some ages than at others. In early life, say under ten years, the skin, the nose and lips, the brain, and the lymphatic and mesenteric glands are most apt to be affected. From puberty to twenty-five the lungs are especially obnoxious in white persons; but I think that negroes are as apt to be affected in their abdominal viscera at this age as in the thoracic. I do not know how the experience of others agrees with mine, but I have found the osseous system more frequently affected in those from ten to fifteen years of age.

Both *sexes* are liable; and perhaps each is *per se* equally apt to have the disease developed; but our domestic habits, in my opinion, have an influence injurious to the female. Her sedentary habits, the want of a due exposure to air and sunshine, are calculated to exert an unfriendly influence upon her health in general, to prevent due vigor and activity in the chylopoietic viscera, and to render her unable to withstand sudden changes in circumstances calculated to affect the health.

Climate was at one time considered as particularly efficacious in developing scrofula; but it is found prevailing in all climates; so that we are compelled to exonerate particular ones from the opprobium of producing it. It is found, however, that a sudden transition from one climate to another materially different, is very favorable to the development of the disease. Neither does it matter, except in degree, whether this change is from a cold to a hot climate, or the reverse. The opinion that the removal of scrofulous, and especially phthisical patients to a southern climate is very favorable to convalescence, has been so common, that the idea advanced here will be by many considered as absurd. Many things, however, equally absurd in appearance, have been by strict investigation proved to be true. The best test upon this subject will be one in which satisfactory information as to the health of large bodies of men, in other respects similarly situated, can be had. Such test the British troops, situated in the United Kingdom and those situated in the West Indies, furnish. I quote from a statistical report made by the medi-

cal department of the British army to Parliament. Med. Chir. Rev., vol. 30, p. 59: 'As an instance how much more prevalent consumption is in that country than in Britain, we may state that of an aggregate strength of 51,567 serving in Jamaica, there have been 661 treated for that complaint, being at the rate of 13 per thousand annually; while out of an aggregate strength of 44,611 dragoon guards and dragoons serving in the United Kingdom, there have been treated only 286, or between 5 and 6 per thousand annually. * * * The baneful influence of the climate of the West Indies in accelerating the progress of consumption, has often been remarked by the medical authorities; but it does not seem to have occured to them, nor indeed had they the means of ascertaining, that at least twice as many cases of it originate as at home, though those catarrhal affections to which they are generally attributed are there comparatively so rare.' Again, p. 52: 'In respect to pulmonary affections, though the admissions under this head are less than at home in the proportion of 115 to 148, yet the mortality is greater, 10½ per thousand of the whole strength having perished by lung affections. The average per thousand in the United Kingdom was 8½.' 'In the West Indies, 1,023 cases of consumption occurred in an aggregate strength of 86,661; being 12 per thousand annually. In the United Kingdom the proportion was 5½ per thousand.' 'This,' says the reviewer, 'we should think may open the eyes of some physicians who think a hot climate a panacea for diseases of the lungs.' Page 59. Why should there be a greater mortality from consumption in the same kind of persons in the West Indies, than in England? I think mainly because of the highly injurious influence exerted upon the constitution by the great change in climate. There will be but little difficulty in believing that a change from a warm to a temperate or cold climate exerts a prejudicial influence on the health. In confirmation of it, I shall refer to two cases only, the great prevalence of scrofulous diseases in our negro race, and the equally frequent occurrence of them among the animals in the garden des Plants in Paris. I am not sure that I ever saw

but one native of Africa; and he died of tubercular consumption. It is known, too, that the African race in this country suffer much more severely from scrofulous diseases than the whites.

A damp atmosphere has been thought favorable to the production of scrofula, but numerous observations have demonstrated that moisture alone is not sufficient to generate it. I can readily believe, however, that a cold moist atmosphere will be more favorable to its development than one of an opposite character.

Of the seasons, the latter part of winter, spring, and the forepart of summer, are found to exhibit the disease most frequently. Indeed it is very common for scrofulous affections to appear during this period, gradually disappearing during the summer and fall, and re-appearing the next spring; thus conforming to the seasons, for years. From this we infer, not that spring in itself is more favorable to the evolution of scrofulous diseases, but that cold is a powerful agent in its development. It may be asked, if cold is the active agent in this matter, how it happens that the increase in the disease does not take place during the cold of winter? My answer is, that many effects do not appear until long after their causes have passed away. The tides do not keep pace with the sun and moon, but follow them. The weather does not begin to grow warm at the winter solstice, but some six or eight weeks after. You may travel a horse two or three hundred miles, and at the end of your journey you may not be aware that he has lost flesh; yet will he fall off afterwards, though you use him not and feed him well. So the effects of the winter are generally produced, and do not appear in full force until after the cold weather has passed away.

This explanation appears to me more satisfactory than that offered by Lugol. 'It is only,' says he, 'when there is a morbid predisposition that the animal economy is unfit to receive the salutary influence of the return of light and heat, and that this influence, instead of being profitable, lights up the germ of hereditary diseases, or favors their progress when

they have already attacked.' Op. cit. 241. Again: 'So, too, with all scrofulous diseases in general, they seem to redouble their activity when nature awakes after the sleep of winter.' Page 240. Again: 'This recrudescence, considered generally, presents a movement of increase and decrease; it commences in the first days of January, it has its apogee in the month of March, and it decreases till the month of June inclusively. In nine-tenths of the scrofulous patients the disease increases during this semestrial period, which embraces the whole period of the year that the sun remains longest in our horizon.' Page 240. It appears to me, if the return of light and heat produced an invigorating effect upon the disease, rather than upon the constitution of the patient, that that increase in the strength of the disease should continue until fall or winter unabated—in fact, augmented. It seems to me strange that M. Lugol should say that this semestrial period from January to June embraces the whole period of the year that the sun remains longest in our horizon; when, in fact, the sun remains just as long in our horizon during the other 'semestrial period.' From March to September is 'the period that the sun remains longest in our horizon.' But the influence of the cold weather remains for a given period; the returning light and heat begin to exert their invigorating influence upon the constitution; the disease gradually feels this influence and begins to give way; and a gradual improvement of health necessarily takes place. By the bye, I hold this to be no mean argument against the idea that scrofula is an inflammatory disease.

But *imperfect nutrition* is perhaps the most potent of all causes in the development of scrofula. The heat and light of summer follow the cold of winter, and to a great degree repair the injury sustained during the latter named period. When the body has sustained a temporary detriment, as by profuse hemorrhage or salivation, there is a *vis medicatrix naturæ*, a restoring power in the system, which most frequently is sufficient, after a shorter or longer time, to bring it back to healthy action; but imperfect nutrition is an ever-acting, ever-powerful agent of evil, the existence of which, and the ex-

tent of which, it is frequently extremely difficult to appreciate. This cause may be divided into two modes of action, one caused by improper food, the other by a deficiency in the powers of digestion, by which even healthy food is not assimilated. There are few subjects in the treatment of disease upon which it is more important to arrive at the truth, or more difficult, than what is the quality and quantity of our patients' diet. Some persons are not satisfied if an invalid does not eat at least as much as a laboring man should; others again think an invalid should be starved to any degree short of death. Hence in one instance we will be told that the patient 'eats nothing at all,' and in another that 'he eats a plenty for a person in his situation.' Whereas when, by cross questioning, we approximate the truth, we may form a very different opinion. As regards climate, so of diet; a sudden change from a full to a spare diet, or even the reverse, is unfriendly to health, and especially so in those whose tendencies are towards scrofula. This may be accounted for, in the one instance, by the want of a sufficiently healthy nourishment, by which the body is imperfectly supplied with materials of renovation; in the other, by injury done to the powers of digestion, by taxing them beyond their strength, by which the same result takes place. It matters little how good the fuel is, if placed under circumstances so that it cannot burn, no heat is evolved.

Such are the causes which I esteem most prominent in the development of scrofula. Of some others adduced by Lugol, as excessive venereal indulgences, the husband being too old, or disproportioned in age to his wife, or not having the relative strength of his sex, &c., I do not see the force. The bringing forward of such causes appears to be a very strong evidence of the whims into which a man may be betrayed, whose attention is devoted almost exclusively to one subject. In reading that part of his book, I was forcibly reminded of a certain quack who declared his patient's disease to have been brought on by the use of mercury. But, doctor, said the patient, 'I have taken no mercury.' 'Did you not take a dose

of calomel?' 'No.' 'Ah! your doctor gave it to you in disguise, for sure as death you've got it in you.' 'But I have taken no medicine at all.' 'I do not mean at this time,' replied the quack, 'but it may have been years ago.' 'I tell you,' answered the patient, 'I never took a dose of medicine in my life.' 'Did you ever have the itch?' 'No.' 'Nor ever rub mercurial ointment on you for anything?' 'Never.' After a pause: 'Have you eaten any beef in the last year?' 'Oh yes.' 'That is it; I knew I should get the clue after a while. That beef when a calf was lousy and mercurial ointment was rubbed on it, and you got the mercury by eating the beef.' Let me not be charged with a want of respect for Lugol. No man, who has labored as long and as diligently for the promotion of science as he has, can be held in indifference by me. I only wish to avoid being swayed by his influence beyond due bounds. In a population where scrofula is present on a large scale, a man may take any position in regard to it, and find circumstances to bear him out. One great difficulty in our profession consists in separating that which is true from that which is plausible.

I have introduced the history of a family for five generations, because, as then stated, I received the account in a way which satisfied me as to its correctness; and because it appeared to me to bear somewhat upon the causes of scrofula. The gentleman who gave me the information, and who is now about 65 years old, and one of the parties, removed to this country from New Jersey when a young man. He married here a wife who had also come from the same region as himself. No scrofulous taint was known in the family of either, and none occurred until the fourth generation on his side, and the third on the side of his wife, (as appears from the account of his family and my own personal knowledge of hers,) unless the bronchocele on the neck of his wife, and also on that of her sister, be considered such? Some will consider them as scrofulous, and the facts in the case of S. C.'s children may be adduced in support of it, viz: that some of her children had small enlargements of the thyroid glands, and some of

them died of phthisis. Again, those who died phthisical, at least one of them, favored the mother's family. But there is another view to be taken of this matter. It is very common, as is abundantly shown by the observations of Lugol, that scrofula is generally observed to affect the different members of the same family in the same way. Now although those who died phthisical favored the mother's family, those who had goitre did not. I have said that I did not believe that this family was affected by inheritance. Others may perhaps think differently, and adduce the devolopment of the tumor on the neck of Mr. H. at his advanced age, as an evidence. Such may be the truth.

Here I will mention the extreme caution with which it is necessary to investigate the history of families; and as an instance is better than a description, I will give one. About a year ago, I was called to see a little boy who labored under some of the symptoms of coxalgia. As I was not acquainted with the family, I thought it my duty to go into an examination of its history. The mother was considerably nettled that I should suppose that there was any taint in her family. Yet upon investigation I found that several of the family had died of consumption; and she herself died of the same disease in less than a year. A friend of mine also highly affronted a whole family by saying that a case to which he was called was one of cancer. Self-love and family pride will hide many things from our eyes.

But to return to our history. This family was in easy circumstances, lived well, and had the usual comforts of the country. It is true that when they first removed to this country it was quite a new one, and much labor was necessary to open farms, &c. The different members of the family were of course exposed to all the circumstances attending the settlement of a new country, but to no inordinate degree. The change of climate had not been great, indeed within a range which would have been considered as exerting a prophylactic influence, if any. They were all of temperate habits; were guilty of no excesses of any kind. There was a suitable corres-

pondence of age between man and wife. In short, there was no evident cause for the development of the disease. The good health of the family was like the 'common law' 'of which the memory of man goeth not back to the contrary.' Yet we have phthisis developed in the family. Why? Some will say because of the taint of the mother. But with the exception of these tumors about the neck, that branch enjoyed as good health as the other. I would say that disease appeared in the fourth generation, of which we have an account, because in that generation children were born having the marks of the strumous diathesis upon them, which were quickened into existence by exciting causes. This brings me to enquire, can a healthy man beget a scrofulous child? In a practical point of view there is another question nearly allied to this, inasmuch as it is frequently very difficult to determine under which to place a given case; but in their nature they are entirely different, viz: can a child born free from scrofula become so? We sometimes see children which can be pronounced scrofulous at birth, but very frequently there are no marks by which such judgment could be given. These last afterwards have the disease developed, and it may be a question, the parents being free from disease, whether they were born scrofulous, or became so after birth. I entertain the opinion that a child of healthy parents may be born predisposed to scrofula. I am fully sensible of the difficulties which lie in the way of coming to a correct conclusion upon this point. But reasoning by analogy from what is known to be true of animals, as adverted to in the forepart of this essay, and from facts so far as human observations can be depended on, I think the testimony is ample. Whilst Lugol, by the general drift of his work on scrofula, negatives the idea, he yet furnishes facts which go to prove it. Thus 'A. Bodin, in his statistics of the Department du Nord, says that the inhabitants of Lille have scrofulous offspring when they intermarry, which is not the case when they marry strangers.' Page 235. Again, speaking of a population intermarrying, he says: 'Hence the race was debilitated, and after a certain number of successive

generations the scrofulous state ensued.' Ib. 234. Dr. Stokes says, in a lecture on scrofula: 'It sometimes, on the other hand, happens that healthy parents may have children of a strumous habit. This, however, is the rarest case.' Amer. Jour. Med. Science, vol. 19, p. 476.

The other question, viz: can a person, born healthy, acquire scrofula? is to be answered in the affirmative also. Lugol recognises the truth of this answer when he says: 'A scrofulous nurse never renders her nurseling absolutely scrofulous, but gives it only the predisposition to this disease, which is developd at a late period.' Op. cit. p. 101. Stokes, loc. cit., speaking of animals, says: 'If we look at those animals in which tubercles are found, we see that they are often those which have been brought from a hot to a cold climate, and kept in a state of confinement for a long time.' Lugol, too, speaking of animals, says: 'Thus, too, most of the foreign animals in our menageries die in a very short time from pulmonary tubercles.' Page 239. Now it would be truly strange if those engaged in catching wild beasts should get hold of those affected with tubercles alone, and let all the healthy beasts of the forest escape. I will make but one more quotation in support of this position. 'Butler was of a family in no manner a prey to scrofula; in spite of the ills of venereal debauch, his constitution rallied and overcame until angina from aneurism hindered him in the duties of his office. Until then, almost pampered with the goods and comforts of this life, he at length could no longer earn his daily bread; poverty, want and distress came upon him as the storm upon the goodly bark. He was shattered in health, and the ill habit presided over the economy, and acute tubercle settled in the lung.' Dublin Journal Med. Sci., vol. 20, p. 19.

Another question of vast importance to those affected with scrofula is, can a scrofulous parent beget a healthy child? Can the child of scrofulous parents be so managed as to afford a reasonable hope that it shall enjoy a fair amount of health? I think that prudence would point out to those who are decidedly of a scrofulous habit, the propriety of abstaining from

marriage. The strong probability is, that notwithstanding their utmost care, their children will be born to disease and misery, and probably will, most of them at any rate, die young. Yet the children of such parents, at least where one is not affected by the disease, are not to be considered as beyond hope. Some of the children may reasonably be expected to conform in their organization to the healthy parent. By rigid adherence to rational training, too, much may be done to invigorate the constitution and ward off the approach of the disease. By putting the child to a healthy nurse, if the mother is tainted, by a free exposure to a pleasant dry atmosphere, by constant invigorating exercise, and by great attention to the chylopoietic viscera, much may be accomplished. Notwithstanding the gloomy prognostics which Lugol applies to all persons affected with scrofula, he yet admits the possibility of an improvement in the health of such families, when sufficient pains are taken to secure that end. 'In the most fortunate cases,' says he, 'those where we can believe that the diseases anterior to puberty are completely arrested, scrofula may be transmitted hereditarily, and it is not till after several generations and happy alliances that the scrofulous habit ceases to be perpetuated in families.' Op. cit. p. 86. 'So, too, parents born in communities where scrofula exists endemically, if they are affected with this disease, do not protect their children from it by emigrating to more exposed and healthy situations; on the contrary, they carry the disease with them. * * * This emigration does not bear its fruit till after several generations, and only in cases where the children have good nurses, and where marriages are made discreetly.' Page 231. Stokes advances the same opinion: 'But on the other hand we sometimes find scrofulous parents beget healthy children. This appears to be an anomaly, but it may be explained by the circumstances of the child having a good healthy nurse, living in a pure air and having comfortable warm clothing, all circumstances calculated to develope the red tissues and therefore strengthen the system. Thus a scrofulous

taint may be completely worn out in a few generations.' Loc. cit.

If the preceding views be correct, the prospects respecting scrofula will be rendered in some respects darker, and in some lighter, than we have been accustomed to consider them. Whilst a source of danger not hitherto recognised is shewn to exist, a source of hope is equally established; no material change, upon the whole, being effected, except such as arises from a more definite and correct knowledge of the grounds of those dangers and hopes, and consequently a more reasonable reliance upon the means used to ward off one, and to secure the other.

Pathology.—It may appear somewhat absurd to speak of the pathology of a diathesis, a predisposition; but as this state cannot be said to be one of pure health or of disease, I do not know any term better suited to express the idea.

Upon looking at a person having a strongly marked strumous diathesis, we are sensible of an aspect of countenance materially different from what is common. There is in certain parts an undue tumefaction; the color of the face is either not sufficiently red, or there is not a suitable distribution of that color. The cheek is perhaps sufficiently colored, perhaps rather too much so over a certain portion, but it is too circumscribed, or it is more or less marbled, especially after exposure to the cold; the remainder of the face being disagreeably pale. The eye may be animated; yet is there an expression about it partaking of languor; the sclerotic portion is too white, or has a tinge of blue. The skin may be soft or harsh; in either case there is something of an unpleasant aspect. The circulation is said to be 'languid'—a somewhat indefinite epithet; according to my observation, the pulse is usually more frequent and weaker than usual; the digestive powers are either weak or irregular in their action; the mind may be dull or sprightly, not usually susceptible of long-continued, close application to a single object of study. The impression

derived from the general appearance is that there is a deficiency in the powers of the constitution.

Look into the organization of the body, and you perceive all those parts of the body naturally of a red color to be less highly colored than is usual; whilst the white tissues are decidedly augmented in volume. This we hold to be the characteristic of a strumous diathesis, a want of balance in the red and white tissues, the latter predominating. Naturally there is a portion of the white tissues mixed with the rest, and possibly the want of color observed in the last may be owing to the increased mixture of the white. But in many portions of the body there is no admixture of red color; hence they are called white tissues. There is a difference of opinion among physiologists as to the precise manner in which these white tissues are formed and nourished. The opinion that there are two kinds of blood sent out by the heart, one red and the other white—that these two bloods remain mixed until they arrive at the capillaries and then separate, the red to be distributed to the red tissues and then returned to the heart by the veins, the white to be distributed to the white tissues and then returned by the lymphatics, appears to be gaining ground. Supported as this opinion is by Graves and Stokes, of Dublin, by Jackson and Gerhard, of Philadelphia, and many others of the first men in the profession, and plausible and captivating as it is rendered by their expositions, yet I am not prepared to give into it. But as no practical views as to scrofula would be affected by establishing the truth or error of this opinion, I shall not go into an examination of it. Let it suffice to state, that in healthy blood there are found, in due proportions, the elements necessary to form and nourish every texture of the body, and that in every texture there is an apparatus by which these elements are separated and appropriated for such nourishment; that the growth of any organ will be affected, in a great degree, by the amount of such elements brought to it by the blood-vessels, and also by the healthy condition of the apparatus of assimilation.

I do not remember any observations which go to shew any

difference in the relative size of the blood-vessels in persons of a lymphatic temperament, as compared with those of other temperaments; but there is evidently a want of red color on the surface of the body, and we might infer a similar state in the interior. Andral and other physiologists have shown that in all alterations of the blood, as one element is increased some others are diminished; indeed, if it had never been demonstrated, common sense would have taught that it could not have been otherwise. The amount of blood, then, remaining about the same, and there being a want of those elements necessary for the nourishment of the red tissues, there must be a superabundance of other elements, amongst which are those necessary to form the white, which are accordingly developed in an inordinate degree.

It will be seen, then, that I understand the state of predisposition to scrofula to consist in an undue predominance of the white tissues, attended and caused by an imperfect sanguification.

Of Scrofulous Affections.—I have spoken of some affections as being much more apt to appear in those of a strumous diathesis, and of others as being very much modified by that diathesis. Amongst the first, I would enumerate intestinal worms, pediculi, certain purpura eruptions, particularly of the scalp, enlargements of lymphatic glands, &c. Amongst the latter, the exanthemata, hooping cough, hydrocephalus, inflammations of any part of the body, in which the ordinary results of inflammation of such parts follow, unattended by the formation of tubercular matter. I remark here, that I by no means attempt to give a complete list of either class, and also that many affections not only are more apt to appear in strumous habits, but are also very much modified by that diathesis.

I do not feel competent to settle the long-mooted point, how worms first make their appearance in the intestines, and therefore shall not labor it. We know that they are very apt to appear in children of a lax fibre, of a pale sallow complexion,

tumid abdomen, &c. We know, too, that such children are apt to have an undue amount of mucus in the bowels. Now whether we believe that worms are introduced from without, in embryo or otherwise, or that they are formed within by some kind of spontaneous generation, we know that in such cases there is a great aptitude for their fecundation and multiplication, and though we may expel vast numbers of them, they are continually apt to reappear in equal numbers. We are not so apt to consider pediculi as of spontaneous production, yet we know that in some children it is almost impossible to keep clear of them. In such there is very commonly a dirty, purpuraceous state of the scalp, which we may consider as bearing the same relation to pediculi, as mucus in the intestines does to worms. I am inclined to think that whatever is true as to the production of worms, is also true as to the production of pediculi.

Another affection extremely apt to appear in children of a strumous tendency, is enlargement of the lymphatic glands, particularly those of the neck. I apprehend these frequently take place without inflammation being present, being caused by acrid matter taken up from some scurfy eruption upon the head and carried to them by the lymphatics, causing irritation there.

If I mistake not, M. Lugol dignifies these enlarged glands as '*cervical tubercles.*' I infer this from the general tenor of his remarks, as well as from some special remarks, in which he speaks of their being dissipated in a period which we cannot conceive sufficient to remove tubercular matter. See page 170, op. cit. At other times these enlarged glands are truly inflamed.

The eruptive fevers are all seriously affected by the scrofulous diathesis; measles and small-pox perhaps to a greater degree than the others. It is mainly owing to this diathesis that a very common remark as to measles is so true, viz: that measles is not so dangerous in itself, as it is the source of other fatal diseases, as phthisis, &c. Yet this diathesis renders the treatment of measles itself more difficult, and its termination

more doubtful. Hooping cough is another disease often rendered tedious or fatal by a predisposition to scrofula, and, like measles, frequently lays the foundation for phthisis, or some other incurable disease.

But there is perhaps no disease where complication with scrofula is more to be dreaded than syphilis. If attended to promptly and treated with great caution and discretion, the patient may recover without much permanent injury; but if suffered to progress to any extent, or if due caution in the treatment be not observed, there is no telling the amount of wretchedness which may result. Several circumstances conspire to render this complication a source of great mischief. 1st. However flippantly we may talk of the ease with which we can distinguish one disease from another, it is sometimes very difficult to distinguish scrofula from syphilis; so much so indeed, that the highest authorities in our profession have acknowledged that they had confounded them, and treated one when they thought they were treating the other. Even Lugol, who, from his almost exclusive devotion to the study of scrofula, might be supposed to know it well when he saw it, acknowledges his occasional mistakes, and that his diagnosis was only rectified by the effects of medicines. 2d. There is, to a very great extent, an antagonism in the treatment of the two diseases. Thus if a particular symyptom be referred to one disease, and treated accordingly, when in fact it belongs to the other, we not only do no good, but very probably we do great harm. 3d. Although we discriminate correctly and appreciate properly what is due to each disease, yet there is great difficulty in adjusting our treatment so as to bear in due degree upon each.

The scrofulous diathesis, then, appears to modify most other diseases, by rendering them either more suddenly fatal, or else more tedious in their course, more difficult of medication, and more doubtful as to the result. In post-mortem examinations of such cases, little or no difference will be observed from what occurs in such diseases, ending fatally in healthy constitutions.

Of Scrofula.—I have defined scrofula to consist in a deposit of tubercular matter in some portion of the body. I have defined tubercular matter to be a pale, yellow or yellowish gray, opaque, unorganized substance. It is true I have seen considerable scrofulous disease, and made a good many dissections of bodies which had died of that disease; but I by no means feel competent to settle various points of its pathology, upon which men, better able to judge and better suitable to observe, differ so widely. I shall therefore briefly state my opinions, and let them pass for no more than opinions. I concur mainly with Dr. Carswell, that tubercular matter is deposited as a morbid secretion, in a state approaching solidity; that inflammation is not essential to its formation, although it many times precedes its production, and conduces to it; that in very many cases inflammation is caused by the presence of tuberculous matter; that there is no disposition or cause in a mass of tubercles to soften, but that that effect is produced by causes extraneous to it; that this softening commences at the circumference, not at the centre.

It is known that M. Lugol thinks tubercles true parasitic animals, produced probably in the same way as acephalocysts. Owing to the great experience and opportunities for observation enjoyed by that great man, his opinion is certainly entitled to great weight. But there are some circumstances attending tubercles which, although not conclusive, are yet sufficiently potent in my opinion to render that explanation improbable. In the first place, acephalocysts do not have a decided disposition to induce inflammation in parts where they are located. Secondly, when inflammation is set up in their immediate vicinity, such inflammation produces no effect upon those parasites. On the contrary, tubercular matter has a strong tendency to produce inflammation, and that inflammation reacts powerfully upon the integrity of the tubercular mass.

Inasmuch as we first recognise tubercular matter in the form of semi-solid points, we are justified in concluding that

it is deposited in that form until it shall be detected in a more nascent state.

In addition to observations made by others, which go to show that tubercular matter does appear without an appreciation of previous inflammation, I would observe that I have seen divers instances in which large numbers of small tubercular masses were scattered over the peritoneum, some of which were surrounded by areolæ of distinct inflammation, whilst others had not the slightest appearance of that state. Now, it is clear that if inflammation is essential to the formation of tubercles, it must have subsided before death in the latter mentioned masses. But inflammation is not so apt to appear about very small masses, as about those of some size. But why should tubercles be caused by inflammation exclusively, and yet that inflammation disappear to be subsequently reproduced by the *effect* of its previous action. The theory does not work well. Besides, tubercles are frequently found in situations in which no inflammatory action had ever been suspected, and which exhibited no evidence of its having existed, if the tubercles themselves are excepted.

Although inflammation is not essential to the production of tubercles, yet it frequently precedes that production, nay lays the foundation of that action, upon which their production depends. We must keep in our minds the difference between concomitants, and cause and effect; also between causes which act occasionally, and those which act universally. I will exemplify my meaning in reference to inflammation by the aid of syphilis. A certain number of persons predisposed to scrofula contract syphilis, and afterwards scrofula is developed in them, probably its development is occasioned by the effects produced by the syphilis, which may have been cured, or may still exist. Here we may say truly that syphilis is the *immediate* cause of scrofula. But not every man, not even a majority of those who have, or have had syphilis, are afflicted with scrofula. Again, a majority of those affected with scrofula have not had syphilis; then there is no necessary connection between them. Precisely so as regards inflamma

tion. It may precede scrofula, may produce a state favorable to the development of it, but it may exist without being followed by scrofula, and scrofula may exist without being preceded or attended by it.

But scrofula frequently gives rise to inflammation. When a tubercular mass has acquired a given size, irritation is set up in the contiguous structures, which is sooner or later followed by inflammation, just as it would take place if any other foreign body were introduced. The object of this process is to expel the offending body. The description given of scrofulous inflammation by Mr. John Burns, (but what I have proposed to call *tubercular* inflammation,) appears to set this matter in the proper light. 'Scrofulous inflammation, says he, is marked by a soft swelling of the affected part, which very frequently is one of the lymphatic glands. The covering or coat of the gland becomes slightly thickened, and its substance more porous and doughy; the swelling increases and the doughy feel changes by degrees into that of elasticity or fluctuation, and a firm circumscribed, hardened margin can be felt round the base of the tumor. If at this time an incision or puncture be made, either no matter or very little is evacuated; the lips of the wound inflame and open, displaying a sloughy looking substance within; and between this and the skin a probe can often be introduced for some way all around. If, however, the disease should have advanced further, there is very little elasticity in the tumor; it is quite soft, rather flaccid, and fluctuates freely; the skin becomes of a light purple color, and small veins may be seen ramifying on its surface. Sometime after these appearances, the skin becomes thinner at a particular part, and here also it is generally rendered of a darker color. It afterwards bursts, and discharges a thin fluid, like whey, mixed with a curdy matter or thick white flocculi.' This description explains satisfactorily several points of the pathology. 1st. The tubercular mass, being a foreign body, causes irritation and inflammation for the purpose of expelling such body. That inflammation, of course, begins tathe surface of the body to be expelled. A fluctua-

tion occasioned by the presence of pus around the mass is felt, and the hard edges marking the bounds of suppuration are evident. But if an incision be now made, very little pus is discharged; but there is a sloughy looking substance within, between which and the skin a probe can be introduced for a considerable distance. Why this? Because although little matter has been found, yet that little is spread all over the surface of the tubercular mass; therefore a probe can be passed freely round it. But when the disease is farther advanced, when the surrounding parts have had time to pour out fluid sufficient to soften the whole mass, then fluctuation is free, and the pus when discharged is mixed with softened tubercular matter.

Laennec taught that tubercles commenced softening in the centre; but as his observations were made upon the lungs, his facts and observations admitted of two explanations, either of which *might* be true; to-wit: upon making a section of the lung, various branches of the bronchial tubes and air cells would be divided; some of these might contain solid tubercular matter, others might contain a considerable portion of the same matter, with the centre containing more or less fluid. His explanation was that the whole had been solid, but the tubercles had begun to soften in the centre. Dr. Carswell explains it differently; that the deposit of tubercular matter commences on the mucous surface of the vessels and air cells; that, as fresh portions are deposited, that first excreted is forced nearer to the centre, until the vessel or air cell, as the case may be, is completely filled; that when this cavity in the centre is observed, it is because the cavity has not yet been filled; that instead of being in a more advanced state than those which are filled with solid tubercles, it is in truth less advanced. This appears to me the more rational solution, the more especially as tubercular masses found in the brain and cellular substance do not show this disposition to soften in the centre. It is not denied that occasionally spaces may be found in large tubercular masses; but these depend upon deposits beginning at various points and approaching each other by continued aggregation.

There is no structure of the body in which tubercles may not be deposited. The mucous membrane lining the air vessels, the parenchyma of the lungs, the mucuos and serous membranes generally, the cellular tissue, the brain and nerves, the bones, any or all, may be invaded by them.

Treatment during the state of predisposition.—We are not very apt to be consulted during this state, unless in families in which several of the members have already fallen victims to some form of the disease. Then there will probably be a very decided tendency to the development of the complaint. I doubt the propriety of giving much medicine during this state; but cases may occur in which more or less will be required. But much can be done to ward off the disease by due observance of hygienic rules. Two things are of paramount importance. 1st. To keep the digestive organs in a state of health. 2d. To supply them with a due quantity of digestible nourishing, not stimulating food. One very potent means of keeping the digestive organs in a healthy state, consists of a due amount of exercise taken daily in the open air, in the blessed light of heaven. It will not do that a given amount be taken every week or month; it should be taken every day, at least every day which ordinary prudence will permit going out; not less than three or four hours daily of such exercise as can be borne without fatigue. It may be said, and there may seem to be reason in it, that the patient is unable to bear the desired amount of exercise; but much of this depends on a sufficient effort not being made. Many persons can go abroad very well, who are fatigued in returning home. We can all bear more fatigue when in pursuit of anything that interests or amuses us, than when we have no object in view. We should, therefore, give our patient every chance to profit by his exercise. It should be made to interest and amuse him. Let him labor moderately at any handicraft for which he may have a taste; work in a garden; engage in botanical or geological explorations in his neighborhood; hunt game; anything, which will cause him to spend a

considerable portion of his time upon his feet and in the open air. This will invigorate his muscular system, his circulatory system, and indeed all the organs of the body. Let him by no means forget that the light of the sun is a powerful agent in the preservation of health. Most persons are fully aware that the light of the sun is indispensable to the health of vegetables, but many seem to think that animals can do very well without it. I will here relate a case, the parallel of which may be found almost any day when search shall be made. Some years ago, I had a child born during the fall. My wife continued very much indisposed during the winter; so much so, as to keep the house. Our family room was quite dark. In consequence of the child being confined so long without exposure to light, he was very fair and delicate in his appearance, yet sufficiently plump and lively, indeed having every appearance of good health, except a suitable complexion. Having noticed this, I caused him to be taken into the open air every day when the weather would by any means admit. His complexion soon began to improve, and in a month or two he had as rosy a face as there is any need of. Butchers, too, are aware that animals when fattened in dark places furnish a meat much fairer than when fattened in the light. Light, then, is as necessary to the health and perfection of animals as it is to those of vegetables. In his labor or exercise, let him avoid exposure to cold damp air whilst he is in a state of inactivity, or insufficiently covered; especially let him avoid getting his feet damp and cold whilst inactive. A man might wade in water for hours without inconvenience, provided he dry and warm his feet when he quits, whereas one-fourth or one-tenth of the time spent standing upon damp cold ground may give an attack of colic, of pleurisy, or some other serious disease. In the first instance, the warmth and vigor imparted to the body by the exercise of walking enables it to ward off the influence of cold, but in the latter case there is no such prophylactic. Let him sleep in a dry, large chamber of suitable temperature. Excessive cold, say from 15° or 20° downwards, should be avoided, especially during sleep; but even that tem-

perature may be safely borne when due exercise is taken. Let his mind be kept in activity, but not harrassed long at any one time, and as pleasantly occupied as circumstances will admit. If the family has suffered from scrofula, or indeed from any single disease, his mind should not be allowed to dwell upon such occurrences. All possible means should be resorted to to divert his thoughts from cases of a fatal character, which may have occurred in the family. He should never hear any remark as to his resemblance to any member of the family who may have died. He should never be permitted to talk about the ill health of the family. On the contrary, he should be encouraged to engage in pleasant enlivening conversation. Some forty years ago, it was usual for young people of both sexes to romp a good deal. It very rarely, if ever happened, that this was carried to such excess as to be liable to cause severe cold, as is too frequently the case after dancing. It was more enlivening and less dangerous than this latter; and really I do not know that it was less genteel than waltzing. Gentility, however, has put its ban on romping, without furnishing us with anything so good, at least so well adapted to preserve health in the present state of society.

Nothing perhaps is of more importance in the preservation of health, than a due regulation of the bowels. Nearly every function of the body is to be performed at stated intervals. At such intervals there is almost always a distinct prompting on the part of nature, if not a full performance. The intervals between the times for expelling the feces appears to have been fixed by nature at twenty-four hours. So true is this, that it may be said to be universal; and it is extremely uncommon that there is any exception depending on nature. Every man, who has not by his own neglect or mismanagement broken up this circle of action, feels at a given hour every day an inclination to perform that act; and so long as he attends to the promptings of nature, so long his bowels will remain regular. Then it is a matter of great importance that all young persons should be impressed with the absolute necessity of attending to these promptings, and the preservation of this

regularity. This is the more especially true as regards those who have any tendency to delicacy of health. All the functions of the body are more or less intimately associated; the derangement of one having a tendency to derange some other; and the preservation or re-establishment of one having a like power to preserve or re-establish the healthy action in some one or more. But there are exceptions to the universality of this law, perhaps, however, depending on some degree of disease. If disease can be detected, that must be treated according to its nature; but if no disease can be ascertained, we must address ourselves to remove the irregularity.

We will suppose it is a child, who is troubled with costiveness. It will many times be sufficient to rub the hand gently over the abdomen for ten or fifteen minutes, three or four times a day. If that should not suffice, then an injection of warm water, administered daily, at a given hour, will answer. After a few days the injection may be delayed somewhat beyond the usual hour, (but the frictions continued,) to ascertain the impression made upon the habit. If necessary, the same treatment may be resumed. These means alone, indeed the frictions upon the abdomen alone, will very frequently suffice; and I hold it a matter of great moment to restore healthy action in the organs by treatment purturbating in the least possible degree. If the patient be of age sufficient to understand directions, he should be taught to perform these abdominal frictions for himself, and then to retire at a stated hour every day, and endeavor to procure a motion from his bowels. He must be impressed with the great importance of his perseverance and success to his subsequent health. It must be confessed that it is very difficult to make children and young persons appreciate the vast importance of success; but on the other hand, as the habit of costiveness is not usually inveterate in such patients, less time is necessary to secure success. From much experience, I am fully satisfied that this alone is sufficient to break up any habit of costiveness, which does not depend upon disease. I have never known a failure where a fair trial had been made.

Besides securing a healthy condition of the chylopoietic organs, we must see that they are supplied with a due quantity of suitable food. There is something peculiar about many stomachs which will enable them to digest particular articles of food, which are usually found difficult of digestion; or, on the other hand, incapacitates them from managing articles which are usually considered easily digested. Such peculiarities ought always to be ascertained and attended to. Anything which disagrees with the stomach is to be avoided, no matter how easily it may be digested by others; and occasionally an article, which to most stomachs is highly indigestible, may be taken without injury, or even with advantage. Bearing these remarks in view, most of our vegetables, milk, eggs boiled so that the whites only are done, nearly all flesh usually eaten as food may be taken in moderation. All flesh should be cooked so as to be juicy, and not highly seasoned; none that is dry or crisped should be touched. Sausages and all high-seasoned gravies should be prohibited without qualification. Minced pies, and indeed pastries in general, should also be under ban, rice and bread puddings being excepted.

Important to health as is a proper condition of the chylopoietic viscera, that of the skin is no less so. Hence great attention must be paid to it. Flannel should be worn next to it at all seasons. In summer this may be thought oppressive, or at least not necessary. But nothing is more effectual in preserving the skin in a healthy, perspirable condition. Although it may be somewhat unpleasant in very hot weather, yet that is precisely the kind of weather in which free perspiration is liable to occur, and when it has taken place much injury is frequently done by a sudden impression of cold. The clothing being separated from the body for a short time, becomes sensibly cooled, and upon reapplication, if it is of materials which conduct heat readily, communicates a sensation decidedly chilly, and that to a degree sometimes sufficient to produce disease. But the flannel protects the body not only against sudden vicissitudes of weather, but also against such

occurrences as that just mentioned. The surface of the body should be kept clean. Bathing should be used two or three times a week, or even every day. Scarcely any one who is not diseased will be injured by the cold bath when prudently used. A cold bath should never be used when the body is fatigued by long-continued exercise. In cases now under consideration, it is doubtful whether it should be used at any time when there is free perspiration or the body much heated. The danger will consist in the suddenness of the shock, and dubiety of reaction. As a general rule, the application of the water should be very short, as in the shower or plunging bath; after such, the reaction is much more apt to take place. It is thought, too, that salt baths are less liable, *ceteris paribus*, to be followed by imperfect reaction. One general remark should always be held in remembrance, viz: if, after the bath, a pleasant sensation of warmth ensues, benefit may be expected from it: on the contrary, if the body feels chilled and uncomfortable, no good, but injury, may be expected from a continuance of the practice.

Daily friction of the surface is another important means of preserving it in a healthy condition. By friction, much of the old dry cuticle is removed, and thereby a free elimination of the insensible perspiration allowed. The vessels of the skin also are thereby stimulated to healthy action.

It only remains that I say a few words as to climate. We shall generally have to treat the disease where we find it; yet all places are not equally favorable to the successful treatment of this disease. Hence when circumstances admit of change of location, it may occasionally be made with great advantage. As a general rule, a situation having a dry, salubrious air is to be preferred. Some observations recently made would seem to indicate that a location where intermittent fever is common, would be advisable for phthisical patients; and if so, it would appear probable that other varieties of scrofula would also be benefitted by the same location. This would seem opposed to what is pretty well ascertained as to scrofula. One or the other must be wrong. Nature nev-

er teaches one thing and philosophy the opposite. I am therefore inclined to think that the observations referred to have been hastily and imperfectly made, and therefore will be set aside when more extensively and thoroughly tested. Scrofulous persons do not generally bear cold very well, therefore removing a few degrees south, taking care to secure a dry and healthy location, may be safely advised. Change of climate, like mercury, may be the means of doing much good when used with discrimination, and therefore within due bounds; but will almost certainly do much harm when carried to excess. Damp locations must be avoided. It is well known that both damp cold air and damp warm air, are much more oppressive than dry air at the same temperature.

From what has just been stated, it would appear that because a location in Florida benefits a patient from Virginia, it does not follow that it would be equally beneficial to one from Maine or Canada; or that the Virginian would have been more, or as much benefitted by a similar location in the West Indies. To secure the best result from change of climate we must judge of the capability of each patient to bear that change, and to be benefitted by the air of the place to which we send him. Some will require a greater change than others. I think less discrimination has been exercised on this point than is desirable.

Treatment of Scrofulous Affections.—It will most frequently happen that we will not be consulted until the period of predisposition has passed away, and some of the thousand affections which go under the name of scrofula have made their appearance. Although scrofula properly so called, at least such as I have defined it, may not be present, yet it is evidently approaching. This is the time to do good, if ever. To do good, it is necessary to take a very patient and scrutinizing view of our patient's condition. In common language he has scrofula, but cases of scrofula may differ as widely as cases of fever. Here we find the great difficulty in arriving at just conclusions. Scrofula has been considered a *specific*

disease, and the profession have been looking out for a *specific remedy;* and in pursuance of that object, have thrown common sense overboard, and put themselves under the influence '*of old wives' fables.*' Hence the vacillation in the estimation of divers remedies at various times. One patient was benefitted, possibly cured by mercury, and forthwith mercury was the catholicon. Soon after, another was injured, or at least got worse during the use of this remedy, therefore it was anathematized. Anon *cura famis* was all the rage. If indeed it had turned out *cura* it had been well. But alas! the disease proved no more amenable to *fames* than to *mercury.* It were bootless even to enumerate all the *humbugs* (to use a common political term,) played off upon the profession from the days of mercury down to those of *iodine* and *walnut leaves.* To my mind it appears pretty clear that much of the reputation which each article in succession enjoyed, was due to the imagination of the man who employed it. And yet I doubt not that many of these panaceæ did in truth do good and cure patients, *when the disease was adapted to the remedy;* for I doubt very much whether the time has yet arrived when the *remedy is adapted to the disease.*

It would be endless to take up all the varieties of scrofulous affections in detail; I shall therefore mention only a few. I will suppose a case, in which there is considerable swelling of the cervical glands, attended by bloated face, thickened upper lip and of the '*columna alaeque nasi*' and tumid abdomen. These cervical glands may be inflamed, or they may be only irritated by acrid matter taken up from the scalp or some adjacent part. It is evident, however, that unless something is done to improve the health, serious disease will ensue. A little examination will shew us that the digestive powers are deranged, and that sanguification is imperfectly performed. Mucus or worms, or both, may be oppressing the bowels, or they may be costive, the liver acting imperfectly; or there may be gastric derangement, causing a secretion of tough glairy phlegm, or of salt or acrid matter, often attended by the presence of tough phlegm about the larynx, which occa-

sions a disposition to cough frequently, and as it is separated with difficulty, retching is often produced. These secretions also frequently produce flatulence of the stomach, cardialgia, and tenderness of the epigastrium. In any of these events, some purging is necessary, and mercury in some form should be an ingredient, used more or less frequently for that purpose. I have enumerated mercury as one of the prominent causes of the development of scrofula. Some may think, therefore, that there is an inconsistency in recommending it as a remedy; and I will not deny that there may be extreme cases in which, owing to idiosyncrasy, no amount of mercury can be taken without danger. Indeed we ought always to be on the look out for such cases among scrofulous patients, because of the great injury which may result from irregular or excessive action of mercury. But I speak of the overwhelming majority of such cases. Lawyers have a maxim 'that the abuse of anything is no argument against its proper use.' The principle is as true in medicine as it is in law. The purgatives should be repeated at suitable intervals, until the stomach and bowels shall be relieved of worms or mucus; and until they, together with the other digestive organs, become in a healthy condition. We shall many times receive much advantage by premising two or three emetics, or by alternating them with the purgatives. As an emetic in such cases I prefer ipecac to tartar emetic. This course alone will sometimes suffice, when the diathesis is weak and application is made early. And such, I apprehend, has been the cause of the credit that mercury and emetics have respectively enjoyed at different times in the cure of scrofula.

Here, I will say a word as to the employment of emetics and cathartics. A number of physicians, respectable both as to number and talents, depend almost exclusively upon emetics as a remedy for scrofula. Of these, one portion give them at shorter or longer intervals, almost indefinitely, or at least till the disease gives way, or else they arrive at the conclusion that the disease is incurable. The result of this course is sometimes very fortunate, especially where the case is not a

severe one, and the stomach recovers pretty well from one emetic to the other. If, however, the disease be grave, and do not yield readily to emetics, and they be repeated at too short intervals, considerable irritability of the stomach may be induced, which will add greatly to the trouble in the subsequent management of the disease. Another portion of those who rely exclusively upon emetics, give them until they produce '*yellow, green or blue bile*,' that appearing to be the object of their administration. My own belief is, that when carried to the extent of producing *green* or *blue* bile they have been pushed too far. I do not say that when green or blue bile is produced by vomiting, such emetic was improper. I know such is not necessarily the case. Such bile is an evidence of irritation, or some unhealthy action in the liver or primæ viæ, and an emetic may discharge from the stomach the offending cause; or it may communicate an impression to the liver which shall tend to correct that irritation there. What I maintain is, that when this result takes place as the *effect of vomiting* in such cases, we should not look upon it as a fortunate result, but the contrary. Therefore I would in such cases, so far from being encouraged to persevere in their use, feel myself called upon to suspend them, and use means to remove the irritation which I had caused.

We are directed, too, to use purgatives until the feces become of a healthy character. But it unfortunately happens that purgatives, like emetics, are not free from danger in their indiscriminate employment. 'Stools of considerable consistence and of a dark green color' are considered as a favorable result of mercurial cathartics. This is true, provided the 'dark green' is of the *right color*, and the stools composed of bile. But this description of such stools will not secure the young physician against an error of momentous consequence. I have seen physicians of considerable age and experience persevering in the use of mercurial purgatives, when there was a great quantity of dark green *mucus* discharged, (the color being something darker than that of Jamestown weeds and of a shining appearance,) wondering all the time that the pa-

tient should continue to grow worse under 'such good mercurial purging.' This kind of purging I hold to be caused by irritation. It takes place when no calomel is given, to be sure, but is likewise frequently produced by it. In the employment of mercury in this disease, we must avoid two things, too much irritation of the bowels, and the constitutional effects of mercury. It is only when such effects follow its use, more especially the latter, that it acts deleteriously in scrofulous habits.

If the disease be somewhat grave, it will not yield to simply putting the digestive apparatus in good order. It will be necessary to keep it so for a considerable period, and in the mean time correct and invigorate various other functions. To assist us in this, we shall need, among other things, tonics. Various articles of this class have been, at different times, esteemed, if not as specifics in this disease, very nearly approaching that character. Although we may reasonably believe that articles of this class are occasionally of much benefit, it would be difficult to point out any peculiar qualities in any one article, which would indicate its right to be considered greatly above others as a remedy entitled to a monopoly. Bark and iron are perhaps more to be relied on than others, unless indeed we put iodine in the list. Bark was at one time very popular, but like other articles, being taxed above its ability, it fell into disrepute because it could not accomplish imposibilities. Yet is it a valuable tonic in such cases as have been duly prepared for its use, by properly correcting the condition of the digestive organs. It, or rather quinine, should be given in moderate doses, say two grains for an adult three times a day, an hour before each meal, and continued for a considerable time. An occasional emetic or cathartic should be interposed, as may be indicated by the condition of the stomach and bowels. Iron is a tonic which appears well suited to many cases of scrofulous affections. In cases in which worms or mucus have loaded the bowels, and have to a considerable extent been evacuated by purgatives, iron is particularly well suited to strengthen the bowels, and prevent the re-

accumulation of such sources of oppression. Indeed, of itself it will frequently expel the worms. Hence, with some physicians, it is highly esteemed a vermifuge. As there is most commonly an imperfect sanguification, iron, by furnishing an ingredient necessary to the blood, may be considered as an article of diet, as well as a tonic. Of the preparations of iron, we should choose one, the dose of which is small, which possesses considerable activity, which keeps well, which is not apt to oppress the stomach, and upon which the stomach acts readily. These qualities are possessed in a high degree by the *Pilulæ Ferri Carbonatis, U. S. P.*, or *Vallett's Ferruginous Pills.* Given in the quantity of 10 to 30 grains daily, they exert a most invigorating effect upon the health, increasing the amount of coloring matter in the blood, they favor the development of the red tissues, and of course improve the complexion. It is true that Dr. Elliston, of London, has used, with much benefit, the *Rubigo Ferri* in doses of from ʒii. to ℥i., but it does appear to me that this must be a very disgusting mode of using a good article, and one very much calculated to oppress the stomach. I think that when medicine is to be taken for a long time, it is very important that it be rendered as little disagreeable as possible. I believe that unpleasant sensations occasioned by the administration of medicines, are a great drawback upon the ability of the stomach to act upon them beneficially. After all, the benefits resulting from medicine depend, not so much upon the quantity taken, as upon the mutual action and reaction of it and the stomach on each other. When in the course of treatment it becomes necessary to use an eccoprotic, I have given with much satisfaction a pill composed of *Sulph. Ferri Hiera, picra*, each ℥ss., *jalap, myrrh*, each ʒi., made into pills of common size, of which two or three may be taken at night. Whilst these pills co-operate in the general plan of treatment, they appear to me to possess one very important quality, that instead of requiring the dose to be increased after being some time used, it can be gradually diminished, and at length altogether dispensed with. Great diversity exists both as to the usefulness

of iodine in scrofulous complaints and as to its mode of action. I am disposed to place it among the tonics,* *when used in such a manner as to be serviceable.* Hence Lugol and some others declare that during its administration the appetite improves and the body increases in weight. But we are assured by others that it produces irritation of the stomach and emaciation of the body. I apprehend that at this day there is no difficulty in believing that any article may be so managed by different persons as to produce dissimilar or even opposite effects. I believe that much of the discrepancy of testimony as to the effects of iodine, is due to the different modes in which it is used. I can well believe that, used in the quantity of a grain a day, it may act as a tonic, and in the quantity of five or six grains daily it may act as an irritant. To set this matter in a proper light, I have thought it worth some trouble to collate a number of formulæ for the administration of iodine, and to calculate the quantity of that article given for a dose according to each formula. I shall premise ℥i. of a watery solution dropped from a two ounce vial gives about sixty drops, of an alcoholic tincture about 140 drops, of an ethereal tincture about 180 drops. Varieties to a considerable extent will take place, occasioned by the purity of

*Note.—Some physicians think that the tonic effects of iodine are exerted principally or wholly on the absorbents. thus enabling them to take up the morbid deposit. Others say, that this effect is produced by its action as an *alterative*, the action of the absorbents being not only increased but altered. Others again consider it as a *deobstruent.* I certainly think an appropriate name a very important thing; but unfortunately in medicine, as in other departments of philosophy, men will sometimes express the same idea by different words, and sometimes different ideas by the same words. It is very important, then, that we understand correctly the idea intended to be conveyed. My idea then is, that administered in suitable doses and under appropriate circumstances, iodine increases the appetite and promotes digestion, furnishing a more healthy chyle; that, in consequence, the various organs of the body are enabled to take on a more healthy action; that the nutrient vessels being furnished with a better material for assimilation, are also enabled better to select the most appropriate molecules. As a consequence of the restoration of healthy action, any effete or deleterious corpuscles, deposited in the texture, are taken up and removed. In this way it may be held to act both as an alterative and a deobstruent; but I conceive that its whole action may be referred to its tonic powers.

the alcohol and ether, also by the size of the rim around the mouth of the vial, and especially by the fluid running back so as to touch the neck of the vial before it drops.

No. 1. Pills of iodine. ℞ iodini, $\frac{1}{8}$ to 1 gr. twice a day. (Appendix to Lugol on Scrofula.)

No. 2. ℞ iodini, gr. ss. (Pereira.)

No. 3. *Tincture of Iodine.* ℞ iodini ʒi., rectified spirit fʒxvi., m. v. to fʒss., gr. $\frac{1}{4}$ to $1\frac{1}{8}$. (E. and U. S. P.)

No. 4. ℞ iodini ℈ii., S. V. R. ʒi., gtt. iv. x. xx. ter. die, gr. $\frac{1}{4}$, $\frac{1}{2}$, $\frac{5}{7}$. (D. P. and Magendie.)

No. 5. ℞ iodini ℈ii., S. V. R., ʒi. spt. lavend. ʒii., gtt. 10, 20, 40 thrice a day, gr. $\frac{1}{8}$, $\frac{1}{4}$, $1\frac{1}{4}$. (Ellis' Formulary.)

No. 6. *Ethereal Tincture.* ℞ iodini, gr. vi., ether. sulph. ʒi., dose, gtt. x. bis die, gr. $\frac{1}{3}$. Ellis says 30 drops of this tincture contain gr. i. iodine. Appendix to Lugol says, 10 drops contain gr. i. iodine. Ellis is right, whilst the appendix has mistaken drops for minims.

No. 7. *Compound Tincture Iodine.* ℞ iodini, ʒi., iod. potass. ʒii. S. V. R., Oij., mfx. to fʒi., gr. $\frac{1}{3}$ to 2. (L. and U. S. P.) Ellis directs gtt. v. xv., pro re nata, equal to gr. $\frac{1}{15}$ to $\frac{1}{5}$.

No. 8. *Solutions of Iodine.* ℞ iodini, gr. v., iod. potass. gr. x., aq. destill., Oi., fʒii. to fʒvi., gr. $\frac{1}{12}$, $\frac{1}{4}$., (L. P.) To this formula, appendix to Lugol adds: 'Doses x. xx. bis terve in die.' If this x. xx. refers to drops, as I presume it does, the dose will be $\frac{1}{154}$, $\frac{1}{77}$ gr.

No. 9. ℞ iodini, ʒvi. iod. potass. ʒiss., aq. destill. Oi. gtt. xx., gr. $\frac{3}{10}$. U. S. P.

No. 10. ℞ iodini, gr. iii., potass. iod. gr. vi., aq. destill. ʒi., gtt. vi. x. ter. die, gr. $\frac{1}{27}$, $\frac{1}{18}$. Ellis' Formulary.—gtt. iii. v. gr. $\frac{1}{36}$, $\frac{1}{12}$. Morton.

No. 11. ℞ tincture iodine fʒi., mucil g. acaciæ fʒii., aq. destil. fʒvi., ʒss. 2d q. hora, gr. $\frac{1}{4}$. Ellis.

No. 12. ℞ iodini ℈i., iod. potass. ℈ii., aq. destill. ʒvii., gtt.

vii. bis die, gr.¼. Ellis. I presume this is a mistake, and intended as a transcript of the following.

No. 13. ℞ iodini, ℈i., potass. iod. ℈ii., aq. destill. ℥viii., gtt. vi. bis die, gr.¼. (Lugol.) Each week the dose is to be increased 2 drops until it reaches 30 or 36, maximum gr. 1½.

No. 14. ℞ iodini gr.ss., potass. iod. ʒss., syr. papav. ℥ss., aq. destill. ℔ss., ℥ii. ter die, gr. ⅛. Dunglison, N. R.

No. 15. ℞ iodini gr.ii., iod. potass. ʒiv., aq. menth. destill. ℥vi., ℥ss. ter die, gr.⅛. (Magendie.)

No. 16. ℞ iod. potass. ʒss., aq. destill. ʒi. solve, et adde iodini gr.x., gtt.v. xv. daily, gr.⅝ 2½. (Append. Lugol.)

Preparations of Iodide of Potassium. No. 1. ℞ iod. potass. gr.ii. sulph. magnes. ℥ss., tart. emetic gr.ss., aq. destill. ℥vi., ʒi. 3 4 ve. die, gr. 1/24 iod. pot. Ellis.

No. 2. ℞ iod. potass. gr.xxxvi., aq. destill. ℥i. gtt.v. xx. ter. die, gr.⅛ 1½ iodide. Magendie.

No. 3. ℞ hydriod. potass. ʒss., aq. destill. ℥i., gtt.xx. xxx., to ℥i. daily, gr.1¼, 1⅞, ʒss.

No. 4. ℞ iod. potass. ʒiiss., aq. destill. ʒiii., micae panis q. s. pill no. cl. divid. no. ii. ter. die., gr.ii. (Appendix Lugol.)

It will be observed that in the foregoing estimate of the preparations of iodine, I have not taken into consideration that which is present as an ingredient of the iodide of potassium. It appears that iodine is very much modified by combination with other articles, as it can be used in much greater quantities when thus combined than in its pure state. Thus it is very irritating when used in the form of a pill or tincture, because of its local action. Indeed, I do not think it ought ever to be used in either form. By being dissolved, by the aid of iodide of potassium, it is much more manageable; by being combined with potassium, iron, &c., it can be taken in much larger quantities, so much so, that Lugol considers the iodide of potassium simply as a solvent for iodine, although there is half as much more iodine in the solvent as is dissolved in it.

Not being qualified to state the relative value of the two, I have gone upon the supposition that Lugol is right in considering the iodine as of little activity.

It may be remarked that although the 10th formula directs only from $\frac{1}{27}$ to $\frac{1}{16}$ or $\frac{1}{52}$, $\frac{1}{54}$ of a grain of iodine thrice a day, yet Drs. Morton* and Ellis direct us to diminish the quantity if it 'produce dizziness, pain in the bowels, or other unpleasant symptoms.' If caution is necessary in using that preparation, it would seem much more called for in a large majority of them. No directions are appended to some of the formulæ, so that we cannot say what amount is intended to be taken daily; but we may presume, when not otherwise directed, thrice daily. By this calculation (leaving out of the account the latter directions appended to the 8th formula as ambiguous,) we have the daily quantity from $1\frac{1}{8}$ (10th formula) to 6 grains (7th formula). I believe, as indeed is believed by others, that Lugol has been more successful in the employment of this article than others, because he has used it in moderate doses, and has paid great attention to other means of improving the health, as exercise, clothing, diet, &c. Many physicians, both of Europe and America, declare most unequivocally that they have never seen it do good. As to the mode in which they used it, as well as the suitableness of the cases for its use, we know little. One thing, however, I do know, viz: that men eminent in the profession have their prejudices and caprices as well as their more humble brethren. And when they have been foiled, in consequence of having used an article in a case not adapted to its employment, they are no less apt to denounce the remedy. In the successful employment of any remedy, much depends upon its being properly prepared, and many medicines have fallen into unmerited neglect from a want of attention to this circumstance. I apprehend that this is as emphatically true of iodine as of any remedy under the sun. I have seen a gentleman occupying an exalted station in the profession who used the tincture of iodine freely, and kept it as an *officinal preparation.* Now I

*Illustrations pul. consumption, p. 130.

apprehend that this is the most objectionable mode of administering the article. At least I have never given it without producing irritation of the stomach and vomiting, occasioned, doubtless, by the decomposition of the tincture by coming in contact with water. I presume the gentleman above mentioned escaped producing much irritation, by having his tincture pretty well decomposed by age before it was administered. But what reliance is to be placed upon experience of this character? If we employ it, let it be in some form in which it is not liable to be set free, and thus produce disorder of the stomach, as a solution with hydriodate of potash.

A combination of these last two articles, namely, iodide of iron, would seem to promise much in a disease in which each is so valuable. I apprehend, however, that the proportion of iron is too small for us to expect much from that. When we wish to employ the two articles in the same case, I think we had better use a solution of iodine, and give Vallet's ferruginous pill in addition. We can thus give just as much of each article as we please. I have employed the article, and apparently with benefit, though I do not know that any better result attended the administration than would have attended the use of iodine. No article in the materia medica requires to be prescribed more carefully than this; and no physician ought to administer it without knowing its purity. He cannot send to an apothecary for it with any assurance of getting what he wants, at least such has been my experience. I have never seen the article that did not contain sesqui-oxide and sesqui-iodide. The sesqui-iodide is greatly more active, and when given under the impression that we are giving the iodide, never fails to irritate the stomach. The syrup of iodide of iron is said to keep well, yet would I be afraid of that if not fresh. Perhaps the least objectionable formula for this article is that of pills as recommended by Christison, to-wit: R. iodine 127 grains, clean soft iron wire ℥ss., distilled water 75 minims; agitate briskly in a strong vial with a glass stopper until the froth becomes white; pour the liquid upon two drachms of finely powdered loaf sugar in a mortar; triturate briskly for a

few minutes; add gradually a powder composed of liquorice powder ℥ss., pulv. gum arabic ℥iss., flour ℥i. mix., divide into 154 pills. Each pill contains one grain of the iodide. During agitation this preparation evolves a very considerable amount of heat, so that it is necessary to envelope the vial in a cloth. So much gas is evolved also as to require great care that the stopper be not displaced and a portion of the ingredients lost.

Whilst we thus attend to improving the general health, we should also have an eye to the local affection. To remove it, volatile liniment will frequently be sufficient. If somewhat obstinate, some of preparations of iodine may be used topically. Hydriodate of potash in the proportion of ʒi. to ℥i. of nice lard. If a more stimulating article is needed, from 3 to 10 grains of iodine may be added.

It will be seen that it will not do to rely upon emetics, cathartics or tonics exclusively; neither can we depend upon them altogether, however judiciously combined. We must call to our aid means more properly hygienic than medicinal. In the first place, I will mention bathing. Cleanliness must of course be insisted on, but bathing, properly used, is a very important means of improving and preserving health. Scarcely any circumstances preclude the occasional use of the warm bath. It removes slight irritations, and produces a train of pleasurable sensations highly conducive to health. A moderate quantity of salt added to the bath will make it more effectual in stimulating the skin; or the surface may be rubbed dry with a towel which had previously been wrung out of salt water and dried. If we wish to make the bath medicinal, we may use a solution of iodine as recommended by Lugol. Cold bathing is less universally applicable, and should always be commenced with caution. Rules by which we may judge of its usefulness and safety have been already mentioned. If it can be used safely, it will almost certainly be beneficial. What has been said as to the means of preserving health under the head of predisposition, applies with much increased force here.

Having gone so fully into the mode proper in the treatment of enlarged lymphatic glands, which applies very generally to what is usually denominated the different forms of scrofula, I will dismiss this branch of the subject with some general observations. 1st. All affections, whether considered scrofulous or not, occurring in persons of a strumous diathesis, bear depletion worse and tonics better than the same affections occurring in healthy constitutions. 2d. Parts affected with inflammation bear exercise better; thus in scrofulous ophthalmia it is not so necessary to exclude the light as in common ophthalmia, nay, a certain amount of light is beneficial. Again, scrofulous white swelling, after the acute stage is over, is benefitted by exercising the limb moderately. I have seen a case in which the tibia was denuded for 10 or 12 inches in length, and over full four-fifths of its circumference improve with great rapidity whilst the patient was permitted, after some constitutional treatment suited to the first stage, to walk upon it daily. 3d. That during our treatment inflammation of some part may be set up. Whilst this continues, we must intermit our tonic course until, by appropriate means, we shall have subdued this inflammation, and then resume it. 4th. That whilst we attend to constitutional treatment, we must not fail to make such topical applications as may be suited to each particular case. 5th. That much time is necessary to manage these cases successfully. We cannot, if we would, make a great revolution in the constitution in a short time; and if we could, we should probably produce an evil equal to the one we cure. A neglect of this consideration has been the means of much injury to patients, and of much discredit to remedies. We try to do too much in a short time. As a friend of mine thought, for whom Fowler's solution of arsenic had been prescribed for intermittent fever. As the next paroxysm was very much mitigated, he said, 'if a little is good, a good deal is better,' so took half an ounce. 6th. It is confessedly very difficult to appreciate correctly the effects of remedies in this disease. There is not so much danger in misconceiving the immediate effects of our remedies,

when given in decided doses, but when they are given in small doses for a long time, the case is very different. I think I have seen the effects of such treatment appear weeks after it had been discontinued; at least, if the amendment was not occasioned by that treatment, it was the effect of the powers of nature, for no other remedies had been employed. It is easy to conceive how the employment of another medicine, about this time, might give rise to very erroneous opinions as to the effects of each. 7th. To all of the exclusive modes of treatment, I would apply one remark. That so far as they are exclusive, they are wrong; yet when used with discrimination, and under proper circumstances, each one may be made very useful. Even the *cura famis*, when used to a certain degree and continued for a short time, may be the means of strengthening the digestive powers, and therefore beneficial. But if carried too far, it proves hurtful. And I think it quite probable that much of the credit which this mode enjoyed was acquired by the inability of the patient to pursue the treatment to the degree prescribed, and his unwillingness to inform his physician of the fact. A case directly in point came to my knowledge a short time since. An eminent member of the profession thought himself entitled to some credit in consequence of a cure effected in this way. The patient, however, put a different construction upon the affair. He said he stood the low diet as long as he could, but gave it up. 'Tis true he took the soup and gruel as prescribed, but he took the beef and potatoes, bread and milk likewise.

Treatment of Scrofula.—Although we cannot expect to cure scrofula often, yet we shall occasionally meet with cases in which the diathesis is weak, and the accumulation of tubercular matter circumscribed, in which we may hope to witness a restoration to health. Whether that restoration be a *cure* or a *recovery* is perhaps doubtful. Even in cases where no restoration is to be hoped for, still we may mitigate the sufferings and prolong the life of the patient. Besides, al-

though we may be satisfied that in the present state of our knowledge we cannot cure a given disease, we should not conclude that we shall never be able to cure it. Every physician should have for his motto, '*Nil desperandum.*' The general constitutional plan of treatment, before and after the development of tubercles, will not vary much. The same observance of hygienic rules will be necessary. Cold bathing will be less likely to be borne with benefit. More care in diet will be necessary. Medicine, though more necessary, will be less effectual.

The accumulation of tuberculous matter may be in any texture or in any organ of the body; but wherever situated, it constitutes scrofula, and is a fearful disease. Perhaps the most frequent seats are on the surface of the mucous membranes, in the parenchyma of the lungs, the lymphatic glands, the spleen, peritoneum and bones. Whilst we continue the treatment heretofore laid down, we must also be diligent in applications intended to benefit the local affection, especially if it should not appear that there are deposits in various parts. If the lymphatic glands should be most prominently affected, rubbing the surface over them with some of the ointments of iodine may be tried; or blisters over the gland, to be kept discharging and removed as often as may be necessary, will sometimes discuss the swelling. It will frequently be very difficult to say whether such swollen glands are truly tubercular, especially before fluctuation is evident. We must judge from the doughy feel of the tumor and the evidences of tubercular matter in other situations. When such deposit is found the means used to discuss the tumor will be less likely to succeed, because we have the presence of a foreign body to contend with. If such body is removed by the absorbents, it will require considerable time. If suppuration take place, after the matter is discharged we may still rub the adjacent parts with some of the preparations of iodine. We shall presently find a considerable portion of the surface of the tumor converted into an ulcer. This should be bathed with salt water, a solution of iodine, or one of creasote. If it should not im-

prove under this treatment, it should have a blister laid on its surface for half an hour, or as long as the patient can conveniently bear it. This application should be repeated as may appear necessary. Dressing daily with an ointment of sulphate of copper, two scruples to the ounce, for a week, to be suspended for the same period and then repeated, will likewise be a proper dressing.

If the deposit should be in the lungs, in addition to the general treatment, we should institute counter irritation somewhere about the chest. This may be effected by blisters repeatedly applied, by pustulations with tartar emetic ointment, or by setons. Patients are very apt to get tired of blisters and pustulations. For that reason, perhaps, it would be better to rely on setons. Just here I may mention the use of *cod liver oil*, which has been highly extolled by Pereyra, Physician to Hospital St. Andrew, Bourdeaux, as a remedy in tubercular phthisis. It has also been considered very serviceable in other forms of scrofula. I do not doubt but it is a remedy suitable for scrofula, the more especially as it contains iodine in its composition. Whether all its virtues are dependent upon the iodine, or whether the iodine exists in a combination more adapted to benefit scrofulous disease, I am not prepared to say. We should observe, however, that the only case given by him, which I have seen, (Med. Chir. Rev., vol. 39, p. 503,) is one in which tubercular matter appears to have been confined to a small space in the lungs. He examined the patient three years after, when pectoriloquy still existed. Now allowing him full credit for the accuracy of his observations, (and to which indeed I think him fully entitled,) we should remember that such cases occasionally do well without any treatment. I know a young man who, some ten years ago, expectorated a considerable quantity of what, from description, I suppose to have been tubercular matter, in whom pectoriloquy of the right side is very evident, and who is in good health now. Whilst therefore we are disposed to allow due weight to each remedy, we should still be on the watch to see that we do not allow more than is due to some of them.

Wherever the deposits of tubercular matter may be, I hold it important that some mode of counter-irritation be used at the same time, that we pursue the remedial and hygienic rules already noticed.

I will add a few words concerning that form of scrofula most common in this vicinity, I mean *Cachexia Africana.* During the prevalence of cholera, many negroes who appeared strongly predisposed to this disease were restored to a state of good health. This was effected, as I suppose, by the free use of calomel, which was then resorted to as a remedy for cholera. Now I believe that mercury must be used with caution in scrofulous diseases; and it certainly was not used with a sparing hand in those days. How is this to be accounted for? Thus: The beneficial action of a remedy does not depend upon the amount taken, but upon the effect produced. At that time our diseases required, at least tolerated, the use of calomel to an extent which would now do incalculable mischief. The quantity then used did not generally go beyond the remedial bounds; I say generally, for it is certainly true that even then great mischief was sometimes done. I think I have cured, at least that I have seen get well, divers cases of this disease, by pursuing the treatment advised, not by emetics, not by purgatives, not by tonics, but by what I thought a rational employment of each in its proper place, aided in no small degree by an enforcement of the hygienic regulations. I have always remembered that it was a work of time, and believed that the old adage 'the more haste, the less speed,' was peculiarly applicable.

A friend informed me that he had seen two cases cured, as he believed, by diuresis, in one case occasioned by taraxacum, in the other by a large quantity (two ounces) of vinegar of squills taken by mistake. Although diuresis frequently attends the employment of iodine, yet I am disposed to believe that the amendment in these cases was due to the previous judicious treatment which my friend had instituted; but the amendment becoming evident soon after an event so marked, there was an apparent fitness in ascribing it to that.

A long time ago, I was attending a case of this disease with very little satisfaction to myself, and no apparent advantage to my patient, when from some cause I ceased to attend. The mistress, thereupon, commenced giving a tincture of poke berries. (*Phytolacca Decandra.*) Soon after this course was adopted, the patient commenced improving. Whether such improvement was the delayed effect of my treatment, in whole or in part, I cannot tell. The remedy, however, is used in scrofulous affections by the same lady with, as she thinks, marked benefit.

A physician in one of our southern States, as I am informed, (but I have not learned his name or seen his book,) has written a book upon this disease, in which he considers walnut leaf tea *the remedy.* Negrier, of Angiers, some years ago, published a 'number of cases of disease of the lymphatics, with or without ulceration of the integuments, of scrofulous ophthalmia, of affections of the bones and periosteum, &c., in which a decided and very marked benefit was obtained from a course of this simply prepared tea. A handful of the fresh or slightly dried leaves may be added to a pint of boiling water, and of this infusion a small cupful may be taken twice a day. An extract may also be prepared by evaporation, and this Dr. Negrier recommends to be given at the same time either in the form of pills or of a thick syrup. A strong decoction of the leaves he has used with excellent effect as an application to scrofulous ulcers.' Med. Chirurg. Rev., vol. 36, p. 192—From Archives Generales. The reviewer 'feels inclined to predict that this remedy is one deserving notice, and that it will be found useful in some cases of lymphatic and cutaneous disease.' I am not informed as to the use or not of other means by Dr. Negrier. I cannot, therefore, express any opinion as to the proportion of credit due to the walnut leaves. I most sincerely wish that a remedy, an infallible remedy, may be found for this frightful disease; but I must confess that I expect the day to come at no great distance of time, when walnut leaf tea (at least when exclusively trusted to) will take its place by the side of *acorn coffee.*

Having spoken of poke berries and walnut leaves, I may perhaps as well name another remedy, which has been found successful in the cure of scrofula. I mean the prickly ash, (Xanthoxylum Fraxineum.) In West. Jour. Med. and Surg., vol. 4, p. 361, we have the report of three cases cured by this article. In each case a long course of treatment to no effect had preceded. It is directed to be prepared thus: boil a handful of the bark of the stem or root in a *new* iron vessel; let it stand until the iron has blackened the tea; give thrice daily as much as the stomach will bear without nausea. This shrub resembles little scrubby black locust when divested of leaves, and has a very pungent taste, which speedily imparts a tingling sensation through the nervous system, something like gum guiacum. I am very much disposed to believe that these cases were such as had been treated too long, and were in fact cases of mercurial disease instead of scrofula. Until better informed upon the subject, I shall place them on a footing with a very obstinate case of syphilis, which a medical friend of mine informed me had been effectually cured by May apple root (Podophyllum Peltatum). As a consequence, he had resolved to cure all cases of syphilis in the same way. It was suggested to him that, probably under the use of the May apple his friend had got well of the mercurial disease which had been substituted for the venereal. But he was so firmly persuaded of the virtues of the May-apple, that he put his next syphilitic patient upon it. But his good sense soon taught him the difference between May-apple and mercury.

Conclusions.—After such reflections as I have been able to make, I arrive at the following conclusions:

1st. That in a vast majority of instances scrofula owes its existence to inheritance; yet

2d. That there is no absolute necessity that a child having a scrofulous parent shall be scrofulous; on the contrary,

3d. That when one parent is scrofulous and the other not, a child which resembles the scrofulous parent will be much

more apt to have scrofula than one which resembles the other parent; in fact, that the latter may have a well-grounded hope of escape.

4th. That the liability by inheritance depends upon a general, not upon a specific law, which is applicable to other diseases besides scrofula.

5th. That whilst a child born of scrofulous parents may escape, one born of parents not at all scrofulous, may have the disease.

6th. That scrofula depends upon an undue preponderance of the white parts of the blood, and the white tissues in the body.

7th. That in our treatment we should endeavor to restore a due proportion of the red particles to the blood, and of the red tissues to the body.

8th. That to effect this there is no specific; but we must be guided by general principles and rational views, precisely as is necessary to treat successfully any other disease.

9th. That how important soever medicine may be in the management of the disease, hygienic rules are by no means less so.

Note.—In all our quotations from the Medico-Chirurgical Review we have had reference to the American reprint of that work.

BIBLIOGRAPHICAL NOTICES.

ART. II.—*A Practical Treatise on the Diseases of Children.* By JAMES MILMAN COLEY, M.D., Member of the Royal College of Physicians in London, &c.; author of "A Treatise on the Remittent Fever of Infants," &c., and of "Essays on Phlegmonous Erysipelas," on "Schirroide, Keloide, or Cancroid, &c., &c. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1846. 8mo.

From a cursory examination, which is all that we have had leisure to give this work, we are ready to believe that it is the most thorough treatise hitherto published in this country on the diseases to which it relates. In his introduction the author says: "The principal object I have had in view in writing the following pages, has been to present to the Medical Profession and the Public a comprehensive work on the Diseases of Infants and Children, which the physician, the surgeon, and the general practitioner may consult as a work of reference. The practical portions have been the result of an experience of forty years, during which time I have been constantly engaged in recording cases, accumulating facts, and pursuing pathological inquiries. In addition to the various information afforded by my private practice, the numerous and interesting diseases occurring among the poor of an extensive district, to whom I was in the habit of giving gratuitous advice and assistance, either at my own residence, or at an infirmary and dispensary, which I established in my native town, supplied me with opportunities rarely enjoyed for prosecuting the useful profession, to which my whole life has been devoted."

We shall take an early opportunity to express a more ma-

tured opinion of this work; meantime, as one of the volumes of the "*Select Medical Library*," it will find its way into the hands of many of our readers.

ART. III.—*A Text-Book on Chemistry for the use of Schools and Colleges.* By JOHN WILLIAM DRAPER, M.D., Professor of Chemistry in the University of New York, Member of the American Philosophical Society, &c. With nearly three hundred illustrations. Harper & Brothers, 82 Cliff street. New York. 1846. pp. 399. 8vo.

This unpretending little volume possesses a much larger share of merit than most of the text-books on chemistry published for the use of schools. The author is a man of genius and learning, and a practical chemist and teacher, who has a thorough knowledge, not only of his subject, but also of the wants of the learner. In the comparatively narrow limits of this work he has succeeded in presenting an intelligible and most interesting outline of the science of chemistry. The selection of facts and illustrations is exceedingly happy, and the work has an originality and freshness about it which would hardly be looked for in such an abridgment. The numerous wood-cuts are executed well, and some of them devised by the author will aid the student materially in comprehending the text. We take great pleasure in recommending Dr. Draper's modest volume to that large class of persons for whom it was prepared, and whose progress in the study of chemistry, we are safe in saying, it is well calculated to accelerate.

ART. IV.—*The Medical Formulary:* being a Collection of Prescriptions derived from the Writings and Practice of many of the most eminent Physicians in America and Europe. To which is added an Appendix containing the usual Dietetic Preparations and Antidotes for Poisons. The whole accompanied with a few brief Pharmaceutic and Medical Observations. By Benjamin Ellis, M.D., late Professor of Materia Medica and Pharmacy in the Philadelphia College of Pharmacy. Eighth edition, with numerous additions. By SAMUEL GEORGE MORTON, M.D. Philadelphia: Lea & Blanchard. 8vo. pp. 272. 1846.

This very ample title-page expresses the character of the Formulary, and leaves nothing for us to say concerning its scope and aim. The fact that it has gone to its eighth edition is the most substantial of all kinds of evidence, that it has been found useful to the profession. The present edition is a decided improvement upon all the preceding ones, and the work may be consulted with full confidence that it brings its subjects up to the science of the day. Whatever has been added by chemistry or practical medicine to the stores of our knowledge will be found embraced within its pages. The young physician desirous of writing neat prescriptions for his patients will turn to the pages of the "Medical Formulary" with great satisfaction.

ART. V.—*A System of Anatomy for the Use of Students of Medicine.* By CASPAR WISTAR, M. D., late Professor of Anatomy in the University of Pennsylvania. With Notes and Additions. By WILLIAM E. HORNER, M.D., Professor of Anatomy in the University of Pennsylvania. Ninth edition. Entirely remodeled and illustrated by more than two hundred engravings. By J. PANCOAST, M.D., Professor of General, Descriptive and Surgical Anatomy in Jefferson Medical College of Philadelphia, Lecturer on Clinical Surgery, Fellow of the Philadelphia College of Physicians, &c., &c. In two volumes. 8vo. pp. 1160. Philadelphia: Thomas, Cowperthwaite, & Co. 1846.

In 1814, Dr. Wistar, then at the height of his fame as Professor of Anatomy in the University of Pennsylvania, pub-

lished the first edition of this work. As remarked in the preface by Dr. Pancoast, "Simple in its construction, concise, but yet clear, and at the same time representing faithfully and fully, the science of anatomy as it then existed, the book was exactly in keeping with the well known character of its distinguished author." It met with a rapid sale, and a second edition was called for in 1817. A year afterwards the author died, and when the publication of a third edition was demanded Dr. Horner, the personal friend of Wistar, gave to it his superintendence, and enriched it with much additional matter which the progress of the science had brought to light. Although more than twenty years have now passed away since the work took its place among our professional literature, it continues to be regarded with the highest favor, and there is not a doubt that the present edition will pass off as rapidly as any of the preceding ones. The engravings, of which the early editions had not the advantage, place it upon an equality with the illustrated works on anatomy which the modern press has brought forth. We shall rejoice in the continued prosperity of this national work, the author of which was an ornament at once to his profession and his species—"a man whose literary and professional career was so creditable to the reputation of his country, whose philanthropy and sauvity of manners established him so firmly in the affections and confidence of all who knew him," and whose eloquence has seldom been equalled by any lecturer on anatomy in any country.

ART. VI.—*Human Physiology.* With three hundred and sixty-eight illustrations. By ROBLEY DUNGLISON, M.D., Professor of the Institutes of Medicine, in Jefferson Medical College, Philadelphia; Secretary to the American Philosophical Society, &c., &c. Sixth edition, greatly improved. In two volumes. 8vo. Philadelphia: Lea & Blanchard. 1846.

For several years the Physiology of Dr. Dunglison was almost without a rival in this country; within a few years the

able works of Müller and Carpenter have been republished in Philadelphia, and have divided with it the favor which it enjoyed at its first appearing in an uncommon degree. But they have only shared in the public esteem, for we find that the American work has gone forward to its sixth edition. The author is not a man to suffer his books to fall behind the times; with his laborious industry they are sure to be brought to a level with the existing state of the science to which they refer. His Physiology is a work of unquestioned merit and ability, and is entitled to the rank which it has long enjoyed among the medical productions of the United States. It is written in a pleasing style, and abounds in knowledge interesting to every class of readers. It will continue to hold its place among the text-books for students during their attendance upon medical lectures.

ART. VII.—*A Pocket Atlas of the Descriptive Anatomy of the Human Body.* By J. N. MASSE, Professor of Anatomy, Paris. Translated from the last Paris edition and edited by GRANVILLE SHARP PATTISON, M.D., Professor of Anatomy in the University of New York; Member of the Medico-Chirurgical Society of London; of the Wernerian Society of Natural History of Edinburgh; of the Société Medicale D'Emulation, and Société Philomatique of Paris. New York: Harper & Brothers, publishers, 82 Cliff street. 1845.

Anatomy, confessedly, is at the basis of Medical Science, and all true helps to the attainment of a thorough knowledge of it will be cordially welcomed by the profession. That such is the character of the little work the title of which is given above, is the conviction of a veteran anatomist and medical teacher, whose long experience in that department entitles his opinions to great weight. Professor Pattison shall speak for himself touching the merits of the volume which has just appeared under his auspices.

"The editor feels much gratification in being enabled to present to the profession of the United States an American edi-

tion of the beautiful "Pocket Anatomical Atlas" of Professor J. N. Masse, of Paris. As a teacher of Anatomy, he has long felt the want of such a work to recommend to his pupils; and, recalling to his mind the difficulties he encountered himself, as a student, in the cultivation of anatomical science, he is enabled to form a just estimate of the value of such an atlas. There are, it is true, already in existence many valuable anatomical atlases. These are, however, not only too voluminous and too expensive to supply the wants of the great body of the profession, but, as it has been observed by the author, from the different parts of the same organ being represented in different engravings, the student, from his being obliged, in consulting them, to refer to different plates, becomes confused, and is unable to form a correct idea of the true structure of the organ which he studies. Again, from their size, they are only suited for consultation at home; they cannot be carried into the anatomical theatre and the dissecting room, which, in the opinion of the editor, is a great objection against their use. The pocket form of the Anatomical Atlas of Professor Masse enables the student to make it his constant companion. He places it before his eye as he listens to the demonstration of the professor in the lecture-room; and on his return home on his examining the plates, the subjects which he has heard demonstrated, the lesson taught by his teacher is forcibly recalled to his mind. In the dissecting-room, the Pocket Atlas serves as a guide to the student in the prosecution of his dissections; it not only teaches him how to expose the organs, the structure of which he is investigating, but the engravings so clearly exhibit them to his eye, and the text furnishes such satisfactory information as to the name and locality of every part of the structure he has unveiled, that the necessity for the assistance of a demonstrator is, in a great measure, obviated. To the physician or surgeon who has no means of referring to the *subject*, Masse's Atlas will be found an invaluable work for reference. When the former wishes to refer to the position of any particular viscus, and to study its relations, or when symptoms depending on nervous connexion arise in disease which he cannot explain, referring to this Atlas, all his difficulties are removed. When the latter prepares himself for the performance of a surgical operation, and when, in vain, he attempts to recall to his mind surgical relations long since seen, and now only confusedly remembered, referring to his Atlas, the vision of the past is recalled to the mind in all its original freshness, and with confidence he is enabled to perform his operation. Such being the

fact, invaluable as the possession of this Pocket Atlas is to the medical student, it is, if possible, still more valuable to the country physician and surgeon; and, from the very low price at which it is furnished, we are much mistaken if it does not obtain a more extensive circulation than any similar work ever before published in the United States.

This work, together with all the others noticed in the foregoing pages, may be had at the book stores of Messrs. Maxwell and Prescott in this city. We should suppose students would do well to supply themselves with the Atlas, which must greatly facilitate the business of unraveling the complicated structure of the human body.

ART. VIII.—*Scrofula; its Nature, its Prevalence, and the Principles of Treatment.* By BENJAMIN PHILIPS, F.R.S., &c. Philadelphia: Lea & Blanchard. 8vo. pp. 350.

An analytical review of this work would have appeared in the present number of the Journal, but for the elaborate prize essay of Dr. Sutton on that subject, which has been admitted to the exclusion of nearly everything else. If not in our next number, at an early day, the notice will appear, and, meantime, we commend the work to the profession as the best treatise that has ever been written on Scrofula.

ART. IX.—*The Writings of Hippocrates and Galen.* Epitomised from the original Latin Translations. By JOHN REDMAN COXE, M.D., Member of the Batavian Society of Sciences at Haarlem; of the Royal Medical Society of Copenhagen, &c. *Multa re nascentur.* Philadelphia: Lindsay & Blakiston. 1846. 8vo. pp. 681.

This is far too interesting a production to be dismissed with a mere announcement of its appearance, and that at present, is all that we can give. We shall avail ourselves of the first opportunity to return to it, when we shall be able to satisfy our read-

ers that it is a volume of rare interest. The thanks of the profession are due to Dr. Coxe for having made accessible to it a portion of the writings of the founders of medical science.

ART. X.—*The United States Dissector, or Lessons in Practical Anatomy.* By WM. E. HORNER, M.D., Professor of Anatomy in the University of Pennsylvania. Fourth edition, with numerous illustrations. Edited by Henry H. Smith, M.D., Fellow of the College of Physicians of Philadelphia, &c. Philadelphia: Lea & Blanchard. 12mo. pp. 444.

Some such guide-book as the above is indispensable to the student in the dissecting room, and this, prepared by one of the most accurate of our anatomists, may claim to combine as many advantages as any other extant. It has been so favorably received that the publishers have issued the fourth edition, which comes forth embellished by various wood cuts. The copy for which we are indebted to the publishers, although received by us a fortnight since, gives proof in its appearance that it has already seen service at the dissecting table, where students have found it a valuable guide.

ART. XI.—*Braithwaite's Retrospect of Practical Medicine.* New York: Daniel Adee.

The most conclusive evidence we could give of our high estimate of the excellence of this compilation, is the frequent appearance of its matter under our head of "Selections." It is, beyond all doubt, an abstract of the very highest value, and has proved acceptable to the profession in an uncommon degree.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Heat at Mosul.—Azariah Smith, M.D., in the missionary service, has published, in the American Journal, an interesting series of observations on the meterology of Western Asia. He states that the mercury in the thermometer, placed in the sun at noon, would always rise to 144° or 146° at Mosul, near the supposed ruins of ancient Nineveh. Such of the inhabitants as are able, have rooms fitted up in their cellars, where they retreat in the middle of the day. The nights are uniformly spent on the roof—dew and rain being wholly unknown during the summer season. Contact with anything dry, communicates the sensation of heat. The beds, says Dr. Smith, seemed to have been just scorched with a warming pan; and stone floors appeared as if endowed with the power of generating caloric. Instead of being refreshed by the cooling sensation which a change of clothes ordinarily gives in the summer, the linen taken out of our coolest wardrobes seemed always, on putting it on, to have come roasting hot from the mouth of some glowing furnace.—*Boston Med. and Surg. Jour.*

Statistics of Consumption.—Dr. Theophilus Thompson gave a short report to the Medical Society of London, of some particulars which he had observed, during the last twelve months, as visiting physician to the Hospital for Consumption and Diseases of the Chest. The number of patients treated by him during the year was 760, of which 286 were phthisis in various degrees of advancement. Amongst 77 cases of advanced phthisis, 56 were men, only 22 women; but of the

cases of incipient phthisis, the numbor of males and females was nearly equal—a fact leading to the conclusion that the apparent preponderance of the former was attributable to the unwillingness or inability of women to leave their homes under circumstances of advanced disease. He remarked on the importance of prolonged expiratory murmur, when unconnected with bronchitis or emphysema, as an early indication of phithisis, and a sign which, when once established, rarely disappears. He also particularly noticed, as a phenomenon of great interest and practical importance, the "inspiration saccadée" of some French authors—not the jerking respiration of spasmodic asthma, nor the interrupted inspiration of diffused pleurisy, but the division of the inspiratory murmur, as though the entrance of the air into the cells required several successive efforts. He had occasionally observed this sign at the back as well as the front part of the chest. It sometimes disappeared under treatment; but there was reason to think it characteristic of a condition of the lungs which frequently immediately preceded, or accompanied, tubercular infiltration. It was remarkable, that of ten cases recorded during the year, the phenomenon had been in nine cases confined to the left side. He had, during the last twelve months, taken notes of eight cases in which a murmur was heard in the second intercostal space, on the left side only, and was probably referable to the pulmonary artery. In two of these patients, the murmur disappered under the use of iron; but in most it was succeeded by more or less distinct manifestations of tubercular disease. He deferred any comments on cases of heart-disease, bronchitis, and other pectoral affections, and concluded by mentioning the results of his observations regarding cod-liver oil, which he had administered in 37 of the recorded cases. In 3, the medicine was discontinued in consequence of the distressing nausea which it occasioned; in 12, the reduction of strength appeared to be slightly retarded; in 12, there was no perceptible effect; in 10, the increase of strength, plumpness, and energy was remarkable. When the fattening process was established it generally became obvious within a fortnight. The author did not attribute to the oil any specific influence on the local disease; but believed it to be singularly efficacious in promoting nutrition. He had found it most useful to the pallid and phlegmatic, and, in private as well as public practice, had observed more decided amelioration under its employment than could be referred to any other remedial means with which he was conversant.—*London Lancet.—Boston Med. and Surg. Jour.*

Treatment of White Swelling.—We have mentioned, on some former occasion, that the Legislature of Massachusetts recognizes no higher claim for services on the part of the most eminent surgeon in the State, than of a wood-sawyer who sets up for a medical and surgical adviser. The following case illustrates this state of things in courts of law. Those who happen to reside where the profession is actually appreciated for the services it renders to the community, ought to be thankful for their position. Again, in this trial, it will be seen that when doctors disagree, the question will no longer be propounded, who shall decide? A jury of twelve men, good and true, soon bring all disputed matters to a focus. Dr. Strong stood valiantly for his opinion, but Dr. Warren's reputation seems to have been heaviest in the balance.

Court of Common Pleas. Simon C. Hewitt vs. Bedford Lincoln.—This was an action to recover fifty dollars, for professional services rendered by the plaintiff to the defendant's son. The rendering of the services was not disputed; but the defendent contended that his son was unskilfully treated by the plaintiff, and injured by his practice. Drs. Warren and Strong were called by the defendant to testify that, in their judgment, the treatment of the patient was not judicious. Dr. Warren, however, said that there was a difference of opinion among medical men as to the best method of treating such a case, which was that of a white swelling, and that physicians of eminence and skill adopted the course pursued by the plaintiff. Dr. Strong did not agree with Dr. Warren, that this was a case of white swelling, but pronounced it to be a *synovial inflammation*, and the plaintiff's treatment unsuited to the particular stage of the complaint when the patient was under his care.

The plaintiff's counsel concluded that the opinion of the witnesses, as to the mode of treatment adopted in this case, was a matter of little consequence; that the plaintiff had a system of practice peculiarly his own, in which he had had great success; and that it was a system entirely different from that practiced by the defendant's witnesses. It was not to be expected that practitioners of different schools should approve of each other's practice. They all stood equal before the law, and here no school could set up its standard as the one to which others were bound to conform. If the plaintiff treated the patient properly, according to the principles of his

own system, he was entitled to recover, however much that system differed from that of others.

The court instructed the jury that this doctrine was true, so far as the practice of medicine was concerned; but that in surgery a different rule obtained; that there could be but one right method here, and that there must be some standard; that if the jury were satisfied from the evidence that the patient was skilfully treated, they would find for the plaintiff, otherwise they would find for the defendant.

The jury returned a verdict for the plaintiff, for $15.—*Boston Med. and Surg. Jour.*

On the Curative Medication of Intermittent Fever. By M. Bretonneau.—A sort of drunkenness, more or less painful, produced by a single and suitable dose of sulphate of quinine, repeated, if necessary, two days afterwards, suppresses for eight days simple intermittent fever. In the same way that with a person who is in the habit of intoxication, we find that much wine may be taken without producing this condition; so we every day see individuals affected with ague taking great quantities of quinine, without the fever becoming suppressed, or its return being prevented. M. Bretonneau agrees with the Jesuits who first imported cinchona, and learned how to administer it; and with Tarti, who for thirty years practised in the hospital at Tours, that every sufficient dose of bark loses its febrifuge power by fractioning it, exactly as a dose of wine loses its intoxicating property by being divided.

It has been stated that the prolonged administration of many doses, whose sum altogether amounted to several efficient doses, has completely failed. M. Bretonneau has seen a quartan fever, which had resisted two ounces of bark, yield to two drachms of the same medicine; but the two drachms were given at once, while the two ounces were taken in very small quantities at a time, and during fifteen days. Small doses, which habituate a patient to the action of cinchona, injure the beneficial results of adequate doses; they hurt the digestive apparatus, and render the febrifuge intoxication more difficult to obtain.

M. Bretonneau corroborates the statements of Sydenham and Morton—that the dose of bark which has suppressed a paroxysm, if repeated before the supposed epoch of its return, will prevent it; and moreover, that the immunity thus pro-

cured may be prolonged by renewed doses exhibited at gradually lengthened intervals, until a permanent immunity from relapse becomes established. The progression recommended in the giving of these preservative doses is the following:—a second dose equal to that which suppressed the fever, is to be exhibited according to the nature of the fever, on any day from the first to the sixth interval, then to be repeated after intervals of 7, 8, 9, 10, 12, 14, 16, 18, 22, 30, days. The best time for giving each preservative dose is immediately after a light dinner; and the first dose had better be given shortly after the decline of the suppressed access, so as to be as distant as possible from the next threatened paroxysm. A relapse will render it necessary to renew the treatment from the commencement. The preservative doses should be approximated if it is found that the accesses become more frequent.

From fifteen to twenty grains of the sulphate of quinine, or from three to four drachms of good cinchona, suffice to suppress the fever of an adult, and to keep it suppressed during eight or nine days. Many reasons lead to the belief that it is useful that the necessary dose should not be exceeded.

Dublin Hosp. Gaz.—Braithwaite's Ret.

On the Employment of Magnetic Electricity in Certain Forms of Paralysis. By J. M. Neligan, M.D., &c., &c.—One of the principal reasons why electricity and galvanism have fallen into disuse has been the difficulty of their application, in consequence of the large and inconvenient size of the apparatus; but now that such great improvements have been effected in the construction of magnetico-electrical machines, this objection is removed, yet it is to be feared that its too indiscriminate employment may bring it into disrepute. In the following cases, Dr. Neligan has confined its use to certain forms of paralysis, in which there appeared no organic lesion, but merely a want of nervous energy. He thus describes the apparatus used on these occasions:

The instrument which I have employed is that which consists of a small battery, in connection with a frame, on which is fixed an upright straight magnet, surrounded with a bundle of iron wires, round which are coiled some thousand yards of insulated large and small copper wire, divided into seven different portions, each of which terminates separately in a small brass nob, brought up through the bottom of the frame. The shocks are produced by the continuity of the stream of elec-

tricity being broken, by the alternate attraction and repulsion, by the magnet of a piece of soft iron, which is kept in contact with a platinized screw, by means of a piece of watch spring. This instrument possesses many advantages, from its portability, the great readiness with which it may be applied, and the facility with which the shock may be regulated; the latter being effected by taking in one or more additional coils of wire; which is done simply by moving a brass regulator attached to the frame to the different knobs, in which, as it is said above, the coils of insulated wire terminate. The profession in Dublin are supplied by Mr. Robinson, of 65 Grafton street, the cost of the instrument beng from £3 10s. to £4 4s.

The form of paralysis in which I have found magnetic-electricity prove most useful, is when a single muscle, or a certain class of muscles, have become paralyzed from a special or local cause. Thus, I have derived peculiar benefit from its use in that particular form of paralysis of the muscles of the forearm, which is produced by the action of lead, and which is so frequent a sequence of painter's colic; as also in those cases where a single muscle becomes paralyzed, either from exposure to a draught of cold air, or from continued pressure on the nerve by which the muscle is supplied. In the treatment of hemiplegia or paraplegia, even in their chronic stage, when, of course, the use of any plan of stimulant treatment could alone be had recourse to, I have not seen any benefit produced by the use of electricity; nor, indeed, in any instance where the cause of the disease could be traced to the brain or spinal marrow. In short, I believe that electricity must be looked upon as a remedial agent applicable to local and not to general paralysis.

The first case was that of a girl nine years of age, who had paralysis of the right sterno-mastoid muscle, resulting from inflammation of the cervical fascia. This took place in November, 1843; the result was wryneck; the right sterno-mastoid was paralysed, and the left having nothing to antagonize, it assumed a state of spastic rigidity producing this deformity. The treatment at first was small doses of saccharated carbonate of iron, with the view of improving the general health, and afterwards to make use of magnetic electricity. In three weeks' time, he says:

I commenced the use of the electro-magnetic machine with the child by applying the conductors of the instrument in which pieces of sponge, moistened with salt and water, were fastened, one to the origin, and the other to the insertion of

the right sterno-mastoid muscle. The application was at first continued for only a quarter of an hour, but was gradually prolonged until she could bear it for half an hour at a time, which period I never exceeded. The weakest power of the instrument was used, and it was applied only twice a-week. After the third or fourth application, a decided amendment was visible; the sternal end of the muscle being the first to regain its power, as was evident from its becoming fuller, and contracting more strongly under the shocks. The head gradually assumed its natural position, and was perfectly straight on the 20th of May, at which time, also, not the least development of the muscle of either side could be perceived.

In this case the result of subsequent experience leads me to believe, that the cure would have been much accelerated had the electrical shocks been more frequently applied; but as it was the first case in which I employed the electro-magnetic machine, I was cautious in its application.

The second case in which Dr. Neligan tried it, was one of painters' colic, succeeded by almost complete palsy of the muscles of both fore-arms. After the colicky pains were removed and the bowels opened, he was subjected to the influence of magnetic-electricity; though previously he could not stir his hands, they immediately closed on the conductor. The application was continued for half an hour at a time, and in four weeks he was quite cured. The next was a case of paralysis of the right shoulder, from the effects of damp. He was a sailor, and had slept for nights together in wet clothes on deck; his right arm at first began to feel heavy and numb; it pained him to stir it; and he gradually lost all power over it. Blisters and moxas had been applied without any benefit. Electro-galvanism was at length made use of by Dr. Neligan, on the 20th of December, and by the 30th he could use his arm nearly as well as ever. Dr. Neligan adds:]

From what I have already said, I need scarcely add, that I have employed magnetic electricity in a great number of cases of hemiplegia and paraplegia, in their chronic stage; but my experience leads me to place little reliance on its application in such cases. Indeed, so far from proving beneficial, I have seen it, in some apoplectic individuals, prove absolutely injurious by its effects in hurrying the circulation. If the above short observations and cases lead to a more correct appreciation of a useful therapeutic agent—hitherto too much overlooked by the regular practitioner—my object in making them public will be completely answered.—*Monthly Jour. of Med. Science.*

Neuralgia Treated by Colchicum. By GEORGE FIFE, M.D.—Colchicum, of all the means internally employed, deserves most confidence in the treatment of this painful and distressing disease; the advantages of this medicine in these cases seem, if possible, to be greater than those it possesses in gout and rheumatism. From what has been lately said of this medicine, this praise may, by some persons, be regarded as somewhat dubious; such is not, however, to be considered the meaning with which the previous remark is made; on the contrary, I can safely affirm that so far as my experience of this medicine extends, I regard all other means as secondary or auxiliary to it, not only in the disease under consideration, but also in gout and rheumatism, in which it has become fashionable to decry its merits, if not actually to accuse it of prejudicial effects. That such do result from the indiscriminate and irrational manner in which it is employed, cannot be questioned, but in my practice, which now extends over a considerable period, and during which many cases of gout have been treated, I can call to mind no case in which the colchicum has been injurious, or followed by unpleasant effects, which may also be said of its exhibition in rheumatism.

In most of the cases, where local appliances were resorted to, they were used as ointments rubbed over the affected nerve. In some, however, of a more severe character, the morphia was applied to a surface previously blistered. This was, in some cases of sciatica, attended with not only speedy but permanent advantage, and certainly seems highly preferable to Mr. Syme's (of Edinburgh) very farrier-like practice of the cautery.

In cardiac neuralgia the colchicum was especially useful, either with or without a few drops of the tincture of digitalis with each dose, when the action of the heart was much increased as well as irregular. A local application in these cases, of great efficacy in relieving both the inordinate action and intense pain, was the tobacco leaf, slightly moistened and placed over the region of the heart, care always being taken to remove it so soon as any feeling of giddiness, faintness, or sinking, was experienced by the patient. For this simple and truly efficacious application, I am indebted to the late amiable and talented Dr. Macwhirter, of Newcastle.

Prov. Med. and Surg. Jour.—Braithwaite's Ret.

Case of Poisoning by Opium, in which Electro-Magnetism was Employed. By J. J. COLAHAN, Esq.—An infant of perfect conformation had been given 25 drops of laudanum to procure sleep. This was at one o'clock, P. M.; at eight o'clock, Mr. Colahan saw the child; the respiration was hurried, occasionally there was stridor, with other signs of acute bronchial irritation; the pulse rapid, but distinct; the physical symptoms, Mr. Colahan remarks, constituted a group exactly resembling laryngitis. An emetic was ordered; in eight hours' time profound torpor and sleep came on, when another emetic was given, and means adapted to rouse the child.

Tartar emetic solution was given every ten minutes in half grain doses, in order to relieve the lungs of the mucus. In spite of every effort, the vital energy began to decrease, and Mr. C. called in Dr. Barry, surgeon to the Maternity Hospital, who suggested the use of galvanism. It was immediately had recourse to.

The strength of the galvanic current was at first comparatively feeble; the shock caused by its influence, although perceptible, was slight, and proportionally diminished after application to the different most sensitive parts of the body. The strength was now increased by sulphuric acid, and a rapid current of electricity developed, to the powerful stimulus of which the infant was exposed, alternately applied to different parts. The physioligical effect was now apparent, and it was not until the regulator was moved to its highest point, and the flow of electricity had reached its maximum intensity, that complete signs of revival were produced, causing involuntary muscular contractions, with frequent voluntary efforts of the child to get released from its painful position. The galvanic influence was not deemed prudent to be discontinued for five hours, at the close of which sensibility was evident and complete, with restoration of the functions of the nervous centres. Gradual and progressive recovery continued, and in a few days the infant was perfectly convalescent.

Remarks.—The quantity of laudanum given in this case I ascertained with tolerable certainty (from an examination of the portion that remained) to have been at least twenty-five minims, which was corroborated by Dr. Barry, who obtained separate pennyworths, procured by different persons, and his calculation tended to a similar result. From the enormous dose relative to the child's age, and recovery from its effects, a weak preparation was supposed to have been administered. Subsequent to the reading of the paper a portion of laudanum obtained from the same stock, which had been made for some

time previous, was procured by Dr. Barry, which was subjected to Dr. Christison's careful analysis, and proved to have been of regular strength.—*Dublin Medical Press.—Braithwaite's Ret.*

A Method of Making the Protoiodide of Iron. By M. Kop.—It is known that the protoiodide of iron, prepared in the usual way, cannot be obtained solid in a state of purity. The limpid and colorless solution first formed, acquires a portion of oxygen from the air, and a part of the iron is thus oxidised, while, at the same time, a portion of biniodide of iron is formed, so that the product consists of a mixture of iodide and biniodide of iron, with peroxide of iron. If this mixture be dissolved in water, the solution will be of a yellowish red color, more or less deep, according to the quantity of biniodide, or even of free iodine present; the solution will also be turbid on account of the peroxide of iron held in suspension.

The author recommends the following method of preparing pure iodide of iron:—Triturate four parts of iodine with two parts water in a large dish; then add, at once, one part of iron filings in a state of fine division, and continue the trituration. In a few moments there will be manifested a considerable elevation of temperature, together with the disengagement of the vapor of iodine. Sometimes, especially if the temperature of the atmosphere be low, the heat developed from the mixture is insufficient to cause the disengagement of iodine vapor; but, in this case, it is only necessary slightly to heat the mixture, immediately after the addition of the iron filings. The mixture is at first liquid, but it soon becomes solid. There exists, in the protoiodide of iron thus prepared, a small quantity of iron, which may be easily separated by a filter, when the salt is used in solution, and the filtered liquor will then be colorless, and free from the mixture of biniodide, or of free iodine. This preparation may be easily administered in the form of pills made with any proper excipient.—*Chemist, Schmidt's Jahrbuch*, and *Journal de Chemie et Medicine.—Med. Times.—Braithwaite's Ret.*

Cases of Diarrhœa, with Emaciation, coming on after Weaning, successfully treated with Creosote. By J. A. Mayes, M.D., of Sumter District, South Carolina.—Every thing connected with the therapeutical application of a new remedy is intensely interesting to the physician, actively engaged in the practical duties of his profession; and the more intense does that interest become, when the new remedy under experiment promises to become a safe and certain cure for some of the most obstinate diseases of children.

The therapeutical application of creosote is now becoming a subject of much interest. The communication of Dr. Wragg, in the second number of the Southern Journal of Medicine and Pharmacy, has established conclusively the utility of creosote in the treatment of hemorrhages; and for this valuable and practical essay, Dr. Wragg is entitled to the gratitude of the profession: since, by his experiments, physicians have come into the possession of a styptic, more uniform and certain in its operation, than any ever before used. Prior to the appearance of Dr. Wragg's communication, several short notices of the application of creosote to the treatment of the latter stages of diarrhœa and dysentery, appeared in the medical journals of the day. Acting under the influence of a love for experimental inquiry, I was induced to give the remedy under consideration a trial in two cases of diarrhœa, with very great emaciation, coming on after weaning. The result of the two cases I give below, with no other remark than that I believe the remedy to be infinitely preferable, in every point of view, to that proposed by M. Weisse, viz: raw beef, finely shred; of which the patients are directed to take two table-spoonfuls in twenty-four hours.

Case I.—Jessie, a little girl, aged about 15 months, was attacked in April last with diarrhœa, a short time after weaning. She had previously enjoyed good health, and was as lively and fond of play as children of her age usually are. The diarrhœa was easily controlled by the usual remedies; but she was much weakened, and reduced in flesh. An astringent and tonic regimen was prescribed for a few days after the more urgent symptoms were relieved. She did not, however, gain in flesh or strength, but gradually became leaner. In the course of a fortnight fever supervened, with great irritability of stomach, vomiting every thing as soon as swallowed. The fever was marked by regular exacerbations and intermissions. Quinine enemata in a few days arrested the fever; these being the only means that could possibly be used; the irritability of the stomach being excessive. There was throughout

the fever no pain or tenderness or pressure of the stomach or bowels, and the existence of gastro-enteritis was, therefore, thought doubtful. Water or tea acidulated with tartaric acid, after a few days, could be retained; and by using acidulated drinks, elixor vitriol particularly, and the phosphate of iron, the appetite improved somewhat, but the emaciation still increased gradually. The bowels were generally in a very bad state. For a month she continued in this situation, when her appetite failed, and was growing rapidly worse. Being re-called to prescribe for her, I found her symptoms and appearance as follows: Pale, leucophlegmatic countenance; abdomen tumid and very hot, complaining of much pain under pressure; stools excessively fœtid and dark colored, also frequent; constant harrassing dry cough; great emaciation, so much so that the integument on the extremities seemed sufficient for a second covering; no appetite at all, and some irritability of stomach; cold drinks could be retained, but everything else was refused. This assemblage of symptoms was indicative of a fatal termination of the case, and that speedily, unless some powerful remedy could arrest the progress of the disease. *Prescription:* ℞ creosote, 5 drops; loaf sugar, 1 drachm; gum arabic, 1 drachm; water, 2 ounces. Mix intimately. Of this mixture, a tea-spoonful was administered three times daily; at the same time the tepid bath, medicated by an astringent infusion, was used two or three times daily; after a few days the cold bath was used, medicated in the same manner. In less than three days the beneficial effects of this treatment were perceptible in the improved appearance of the alvine discharges. Her amendment from this time was rapidly progressive. The last mixture made up for her was, R. creosote, 6 drops; loaf sugar, gum arabic, aa. 1 drachm; carbonate of iron, ½ drachm; water, 4 ounces. Mix. The vial to be well shaken before measuring a dose. A tea-spoonful was directed three times a day. After using this mixture, no further medical treatment was thought necessary; but a nourishing diet and exercise advised.

Case II.—Billy, a little negro child, had the misfortune to be weaned at six months. Being deprived of his natural food, his health soon suffered much. The bowels were very generally out of order, and he soon became very lean. His situation was such that for eight months, or more, he required constant medical attention. In that time his disease, of course, varied much, being sometimes better, or even nearly well. In the month of January last he became dropsical. The swellings, however, disappeared under a course of chalybeate and

vegetable tonics. From his first indisposition, there were great debility and extreme emaciation; impaired appetite, or morbidly excited appetite; looseness of the bowels; but with little fever.

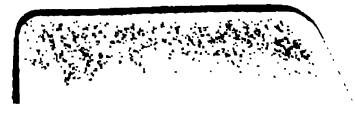
Having witnessed the excellent effects of creosote in the former case, I determined to give it a trial in this. At the time of prescribing it for him, the emaciation had become even greater than in the other case, but the symptoms generally were not so severe: he had some appetite; his bowels were as usual very much disordered. The same prescription was used, and the good result was as plainly visible, though the amendment was not quite so rapid.

At the time of writing this, he takes but little medicine; nourishing diet and exercise seems to be sufficient for his case; and the prospect of a speedy and entire recovery is infinitely better than it has been in ten months.—*Southern Medical and Surgical Journal.*

Clinical Lectures on Diarrhœa of Infants. By Professor Trousseau.—*Treatment.* We have found few drugs of any avail in the treatment of the bilious diarrhœa in children. It is a convenient plan to call the malady a gastro-enteritis, because the denomination leads to an invariable line of treatment, accessible to understandings of the meanest capacity. We take, however, a different view of diagnosis generally, and deem it unprofitable unless it leads to some practically useful indication. Some forms of diarrhœa are doubtless less difficult of cure than others, but we must say that the varieties we have described often combine with each other, so as to cause the practitioner no small embarrassment, and to reduce him, in many cases, to a blindfold empiricism; not but that we profess much respect for that empiricism which teaches us to exhibit mercury in syphilis, steel in anemia, and bark in ague; but the empiricism we deprecate as a contemptible method is that which is not guided by diagnosis. The method we refer to may become a useful guide to the detection of the nature of disease, and it then acquires a considerable degree of utility. Let us remind you of a case of hemicrania at present in the wards. The attacks were periodical, and we tried sulphate of quinine without success; thus acquiring the knowledge that it was not governed by miasmatic influence. We exhibited then mercurial preparations, and the nervous headache having yielded at once, we were lead to attribute

the disease to syphilis. This is the empirical method we adopt; it is not the empiricism of *experiment*, but of *experience*. Thus, if we say that a patient is affected with neuralgia, we express a diagnostic which is as elementary, and, let us add, as useless, as to say that he is affected with a corn on his foot; but it is quite another sort of thing to say the patient is laboring under gouty, syphilitic, miasmatic, rheumatic, or chlorotic neuralgia, because this kind of diagnosis leads us to the real therapeutic indications. To return to the treatment of diarrhœa: Let us not forget that, to arrest the superabundant intestinal secretion is not by any means to cure the complaint which caused it. It is our opinion that bilious diarrhœa is only a very superficial catarrhal derangement of the intestine. The most efficient treatment consists in the exhibition of neutral salts, such as the double tartrate of potass and soda, phosphate of soda, Epsom or Glauber salts. We do not wish you to understand that we recommend the use of purgatives. No; castor oil and magnesia, or manna, you will usually find unsuccessful, whereas the neutral salts generally produce a speedy amendment. We have also derived benefit from the exhibition of pulv. ipecac., at doses varying from two to ten grains, and mixed with a little jam, milk, or simple syrup. The action of this medicine is threefold: it is a substitutive, a discutient, and being a diaphoretic, deviates towards the skin those vital energies which are occupied in the production of those morbid symptoms in the alimentary canal. But when the bilious diarrhœa is the consequence of mere nervous excitement—when it is caused by fear or anger, as tears by grief, or salivation by appetite—opium gives relief in a very short time. In these cases, which you will find to be characterised by the absence of any sort of suffering during the first twenty-four or thirty-six hours, the disease will speedily yield to the influence of hypnotic medicines. Half a drop of Sydenham's laudanum is a sufficient dose for a child under six months; others, it is true, will bear two or three drops, but that dose is too powerful a narcotic for the many. The laudanum should be dissolved in an ounce mixture, whereof the infant shall take a tea-spoonful every three or four hours; but when the disorder has lasted beyond the specified time, opium ceases to possess its salutary effect, because the mere presence of the increased secretions on the mucous surface has sufficed to bring on an irritation which did not exist at first. ' Then we must again have recourse to neutral salts.

In mucous diarrhœa we have generally derived benefit from



three sources: saline purgatives, calomel, and rhubarb. The dose of calomel we recommended is one-fifth of a grain daily, mixed with half a drachm of sugar. This should be continued two or three days at furthest. As to rhubarb, it is the "syrup" we use, the so-called "sirop de chicorée"—a good preparation in everything but its absurd name, which insinuates the idea of the efficacy of the endive, which is, on the contrary, perfectly inert. Great attention should be paid to the child's diet; his food, less abundant than usual, should be chosen with great care. Milk is the most proper food for young children; fecula and broth also may be given after the expiration of the first year, and the drink should be in small quantity. In the choice of food the physician must also allow himself to be guided, in a great measure, by the idiosyncracy of the child, and the mother's remarks on the peculiarities of his appetite.—*Southern Medical and Sugical Journal.—London Med. Times.*

Tuberculous Abscess of the Lungs opening externally.—M. Forget, of Strasburg, read at the Academy of Medicine in Paris, the details of a patient affected with pulmonary phthisis, in whom there was developed on one side of the chest a fluctuating tumor, with emphysematous crepitation. This tumor opened spontaneously, and gave exit to both pus and air; a fistula, which closed and again opened at different times, persisted to the death of the patient, which was accelerated by the appearance of a plueritic effusion occupying the entire thoracic cavity. At the autopsy, a tuberculous caries of the seventh and eighth ribs, corresponding to the abscess, and a fistulous opening establishing a communication between the exterior of the chest, and the inte ior of the lung appeared. Tubercles existed in the lungs, and liquid and false membranes in the pleura.

M. Velpeau observed to M. Forget, who believes this case unique, that he possessed himself six analogous to it, two of which were even still more curious, for the fistula opened on the lateral parities of the neck, below the ear.

M. Blandin related likewise three facts similar to that of M. Forget. He spoke of tuberculous abscesses communicating with the lung, which he had opened in the practice of Messrs. L'Herminier, Honoré, Rostan.—*Gaz. Med. Chir.—Med. News.*

THE WESTERN JOURNAL.

NEW SERIES.—VOL. VI.—NO. V.

LOUISVILLE, NOVEMBER 1, 1846.

FOREIGN CORRESPONDENCE.

PARIS, Sept. 16th, 1846.

To the Editors of the Western Journal:

GENTLEMEN—In the following letter I shall give you such detached items of information as I have had opportunity to acquire during my short residence in this city, trusting that in my future communications I shall be able to observe more system. Among the many distinguished medical men of the French metropolis, Velpeau was one whose lectures I was most anxious to hear. I had the pleasure of listening to his last cliniques at the Charity Hospital, and an outline of one of these I have attempted to give. I like him as a lecturer; his style is good; viz: plain, and unaffected; his matter is excellent, his remarks sufficiently practical and succinct. I promise myself great pleasure and profit from attendance upon his course, which begins in November and continues during ten months. Velpeau is between fifty and fifty-five years of age, of ordinary stature, and of a peculiar expression of face. His hair is beginning to be gray, while his eye-brows are perfectly black, large and heavy, and, hanging over light hazel eyes, a little sunken, give to him this ex-

pression. He is at the Hospital of Charity, and is followed, during his visits, by crowds of both French and American students. He begins these at 8 o'clock in the morning and finishes at 9, when his lecture commences, which continues about an hour. My breakfast hour is now half-past 10 o'clock. In the winter, when the days become shorter, the student, who would be regularly at his post, must rise, dress, and breakfast by candle-light; and he who does this for half the year, most assuredly "scorns delights and lives laborious days."

Hopital de la Charité—M. Velpeau—Erysipelas.—There are many points worthy of mention both in the theory, nature, and treatment of the disease called Erysipelas. Since the time of Franck physicians have contended, and M. Chomel has been singularly warm in his advocacy of the opinion, that erysipelas of the head is always preceded by engorgement of the submaxillary ganglia. The evidences which they advance in support of this theory do not appear to us to have been seen in their true light. We regard the ganglionic irritation or engorgement as an effect, a consequence, rather than a cause or precedent of erysipelas. There are numerous instances on record where erysipelas has traversed the scalp and reached the face unnoticed, and we think it risking nothing to say that these are the cases where engorgement of the submaxillary ganglia is settled upon as the cause of the disease.

We endeavored to show in a previous lecture, and we shall return again to the subject, when speaking of diseases of the glandular system, that this mode of regarding the gang. engorge. which is observed in erysipelas agrees in every particular with the manner in which engorgements of the ganglia in general are produced.

In our opinion the idea of the pre-existence of ganglionic engorgements in erysipelas is an error arising from this obvious cause, to-wit: that the first stages of the disease pass unobserved and undetected, while in reality the tumefaction of the ganglia follows the cutaneous inflammation. This remarkable circumstance is connected with the treatment of this disease. There is no mode by which it is arrested; every topical remedy has been applied without seeming to diminish its duration or limit its extent. Mercurial ointment, hog's lard, ointment of calomel, sulphate of copper, diluted acid, nitrate of silver, on which a vast deal has been said, and to the consideration of which an

American physician has even devoted a whole volume—blisters, sinapisms, etc., all have been tried, and all have failed.

We have met with but one application which has appeared to us to possess any value in the treatment of erysipelas; that is the ointment of sulphate of iron.

Sulph. iron 8 ä 10 grammes.
Lard 30 ä 40 grammes.

If you prefer it in the form of solution, add 10 grammes of the sulphate of iron to 100 grammes of water. Compresses saturated in this mixture are to be laid upon the skin.

This salt has evidently some action on erysipelas; the parts over the integuments with which it is placed in contact become white and shrivel up; though it does no more towards circumscribing the progress of the disease than any other compound. As a remedy, therefore, it is not entitled to much attention. In many cases the general symptoms of erysipelas will continue unabated and even increase after the entire disappearance of the redness, a fact too clearly pointing to the conclusion that it is a constitutional affection, and hence beyond the reach of all topical applications.

And although we are disposed to believe that the sulphate of iron has been occasionally used with advantage, we would have it distinctly borne in mind, that a general remedy is what we want and what has not yet been discovered.

We proceed to mention a striking result, which seems at first to be rather the effect of caprice. Out of five patients who were admitted into the hospital for erysipelas not one has died, and among fifteen who were seized with the disease while lying in the wards, the enormous proportion of eight have died. This difference of mortality is most surprising, and as easily accounted for.

The five patients who were brought to the hospital laboring under erysipelas were suffering under this disease alone, and notwithstanding we admit that even under such circumstances as these patients sometimes die, the termination of the attack is very generally in recovery. What now are the facts in relation to the fifteen individuals whom erysipelas seized while inmates of the hospital wards? Every one was enduring disease in some shape or other; some had submitted to operations; one had peritonitis; another pneumonitis; and others

again were exhausted by suppuration in different parts of the body.

The fate of these patients, therefore, must be ascribed as much to the maladies under which they labored at the time that erysipelas supervened as to that affection itself.

It must be received as a law equally in medicine and surgery, that erysipelas, existing in complication with other diseases, is always a most serious and frequently a fatal disorder—if not so in itself, at any rate on account of the grave concomitants amid which it is developed. In hydrocele M. Velpeau is particularly partial to iodine injections.

When the rumor that Asiatic cholera had made its appearance in London reached Paris, the Academy of Medicine despatched two of its members to that city in order to study the disease. At one of the meetings of the Society of Practical Medicine held soon after, great wonder and astonishment were expressed by various learned gentlemen who were present, that the Academy had been guilty of so great a blunder. They were confident that Paris afforded equally as fine a field for the investigation of cholera as London. Six of the members of the Society had met with cholera this season too clearly developed to be mistaken. Some had had several cases. The symptoms were vomiting, colorless alvine evacuations, cramps, coldness of the extremities, coldness of the whole surface of the body, with the blue tinge of the skin, sunken eyes, and suppression of urine, which latter symptom existed for thirty-six hours in one instance. The treatment pretty generally consisted in opiate draughts, laudanum and starch injections, frictions, sinapisms to the extremities, cataplasms to the abdomen, and very small quantities of fluids to drink for fear of inducing vomiting.

M. Belhomme, who introduced the subject, had practised venesection in a case which he was called to. He first ordered the draught and injection, frictions, etc., and in twelve or fifteen hours after, when some amelioration of the symptoms was observed, venesection was performed, and the next day the patient, a woman of fifty-three years old, had entirely recovered.

In the Medical Gazette of Strasbourg it is stated that the cesarian operation was performed with entire success by Dr. Steinbrenner, on the 15th of January last. On the first of March both mother and child were doing well.

The journals from India of the 15th of August speak of the ravages of the cholera. They also state that an English physician, Doctor Ballguer, has discovered a remedy for this terrible disease. Patients to the number of fifteen had been relieved through his instrumentality. The treatment is simple, consisting in the use of a bath of medicated vapor. This scourge has set its foot in Persia. Teheran has been deserted by the king, his ministers, and the entire court. The diplomatic corps is preparing to follow the example. The journals admit that the disease is communicated by the air. They fear that it will pursue the same track that it did in 1832.

A lad, aged 18 years, fell not long since upon his hands from the fifth round of a ladder upon which he was standing, which resulted in the fracture of the first metacarpal bone of the left hand. Crepitation, with shortening of the bone, contraction of the muscles, etc., characterized the case. Three longitudinal compresses, paste-board splints, and bandages sufficed, in the space of a month, to produce re-union of the bone. This is the only case on record where so small a bone has been fractured by such a force. The power which produced it acted as a lever of the second kind. D. W. Y.

NEW MEDICAL SCHOOL.

Among the acts passed by the last legislature of the State of New York, was one incorporating the University of Buffalo. The trustees have organized the Medical Department of the University by establishing seven professorships, and the election of the following gentlemen professors: James Hadley, M. D., Professor of Chemistry and Pharmacy; Charles B. Coventry, M. D., of Physiology and Medical Jurisprudence; James Webster, M. D., of General and Special Anatomy; Charles A. Lee, M. D., of Pathology and Materia Medica; James P. White, M. D., of Obstetrics and Diseases of Women and Children; Frank H. Hamilton, M. D., of Principles of Surgery and Clinical Surgery; Austin Flint, M. D., of Principles and Practice of Medicine and Clinical Medicine.

This list embraces the entire Medical Faculty of Geneva College, with the exception of Dr. Thomas Spencer. We learn that the professors have accepted their appointments with the understanding, that the course of lectures shall be delivered after the course at Geneva has closed, which is about the first of February. The school at Geneva remains as it was; the lectures in it will go on as they have done heretofore, and the course at Buffalo will follow in a different period of the year.

FACTS FROM CORRESPONDENTS.

CASE OF PREMATURE DEVELOPMENT OF THE MAMMARY GLANDS.

We are indebted for the following facts to Dr. JOHN DAWSON, of Jamestown, Ohio:

To-day, (July 30th,) Mrs. M. presented her daughter to me for an opinion as to its condition. The child is a female, nearly three years of age. It has had good general health since its birth; is of light complexion, with fair hair, and rather dark eyes; is of about the usual stature of children of its age; and is the only child the mother has ever borne. Some time since, its *mammary glands* commenced being developed, and they are now about the size of large oranges, apparently well proportioned, both of the same size, with *nipples* similar to those of young ladies at the age of puberty. Neither by inquiry of the mother, nor by my own examination, could I detect any other premature development, either of mind or body.

CONGENITAL DROPSY—(ASCITES.)

This case was that of a female child nine weeks old. I saw it October 25th, 1844, when the mother informed me that, at its birth, the abdomen seemed to be unusually protuberant, and that shortly afterwards it became subject to paroxysms of restlessness and crying, for which anodynes were administered without producing any relief. At my examination the general system was not emaciated, nor was there any anasarca of the extremities. The skin was rather soft and moist. It sucked heartily; had more thirst than natural, and had a slight coat upon the tongue. The abdominal tumor was so great as to extend down over the pubis and also upwards and backwards over the ensiform cartilage and false ribs.

I prescribed diuretic and purgative medicines, and directed iodine ointment to be rubbed on the abdomen twice a day. No amendment followed this prescription. The child fell into the hands of another

physician, who tapped it and drew off a considerable quantity of water. It eventually, however, died.

ATROPHY OF THE ABDUCTOR INDICIS MANUS MUSCLES.

This affection occurred to a man near the meridian of life, healthy, and a farmer by occupation. As well as he could remember, there has been no symptom whatever of disease of the hands previous to the time he observed the muscles to be diminishing in size, which took place about one year since. At that time an *atrophy* commenced in the *abductor indicis manus muscles* of both hands, and has continued until the present, when the space between the thumb and index finger occupied by these muscles seems to be completely vacated, giving to this part of the hand a sunken appearance. In the parts there has been no pain at any time, not even the sensation of weakness. The patient's general health has also been good during the progress of the affection, with the exception of a slight attack or two of intermittent fever.

Among other causes giving rise to partial atrophy, we commonly reckon inactivity of a part, disease of the principal nerve, pressure upon the principal artery supplying the part with blood, or chronic inflammation. Directly, or indirectly, when either of these causes appears to be in operation, they are connected with a deficient supply of arterial blood to the part. In the case before us, the trouble seems to be very obscure, no general or local disease of any kind being present; besides, it could not have originated from want of exercise, as the patient has all the time been engaged in active labor with his hands.

A CASE OF UNCOMMON ACUTENESS OF THE SENSE OF VISION.

There is living in this region a young man of 23 or 24 years of age who is reported as being able to see with his natural eye *animalculæ* in common well and spring water. This faculty was noticed when he was some 15 or 16 years of age, by persons for whom he was at work, in consequence of his refusing very often to drink water handed to him, in which nothing could be discovered by common eyes. I made some experiments with him, enough to be satisfied that his case was no hoax; and did intend to have made more, but have lost sight of him, and suppose he has left the neighborhood.

His complexion is fair, temperament sanguine, eyes blue, less than the common size, with very small pupils.

THE WEATHER.

The heat of this region at several periods during the months of July and August has been intense—more so decidedly than has been experienced for a number of years. The mercury in Fahrenheit's thermometer on several days in July went up to 94°, and on one as high as 96° in the shade. During the past winter we had some weather colder than has been experienced for several years. What effect these extremes of temperature may have upon health has yet, in part, to be observed. It was the remark of an old observing physician of this State, that severe winters, as a general rule, were succeeded in the spring with more than the usual amount of inflammatory diseases. From the effects of the intense heat we have recently had, I have, as yet, observed nothing in the health of a character unusual.

JAMESTOWN, August, 1846.

GENERAL ŒDEMA AFTER THE USE OF QUININE.

Dr. Henry Strong, of Mississippi, a short time since, communicated to us the following facts, at the same time enclosing a specimen of the suspected sulphate of quinine, concerning the purity of which he requested our opinion. On the application of the usual tests no adulteration of the article was discovered:

A planter of this vicinity purchased a bottle of sulphate of quinine from an apothecary in Woodville. Before using it he offered it to me for inspection; it was very lumpy, and some of the lumps were of a color nearly as yellow as sulphur. I remarked to him that it had not the usual appearance, and was probably an inferior article. He opened the bottle and gave a portion of the medicine to four or five negroes who had been laboring under common bilious remitting fever. They seemed to convalesce rapidly, but in three or four days they came in swelled severely in the head, body, and extremities. The distention of the abdomen and lower extremities seemed to be as great as the skin could bear. This swelling subsided gradually in about a week. From the fact that all who took of the quinine were swelled, while no others on the plantation were similarly affected, suspicion falls naturally on that medicine.

SEPTEMBER 17th, 1846.

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EDITED BY

DANIEL DRAKE, M.D.,

AND

LUNSFORD P. YANDELL, M.D.,

PROFESSORS IN THE LOUISVILLE MEDICAL INSTITUTE,

AND

THOMAS W. COLESCOTT, M.D.

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MEDICINE AND SURGERY.

DECEMBER, 1846.

ART. I.—*Observations on the Medical Topography, Climate, and Endemic Influences of South Alabama.* By JAMES C. HARRIS, M.D., of Wetumpka, Alabama.

Aware of no systematic attempt since the work of Dr. Heustis, published at Cahawba, in 1825, at a description of the causes, symptoms, and treatment of our autumnal fevers, and being thoroughly impressed with the importance and correctness of the remark of Malte Brun, "that not only the best observations upon climate often lose half of their value, for the want of an exact description of the surface of the country, but that the diseases incident to particular localities cannot be properly comprehended or treated," I have been induced to offer to the profession of the South the following facts, observations, and deductions, under a hope that should they fail to enlarge our views concerning the etiology or treatment of fever, they may serve to bring about a more correct

understanding of the subjects involved, and answer hereafter as a neucleus, in the hands of some one more able to do the subject justice, in the formation of a more comprehensive treatise on the diseases of the South.

The Southern portion of Alabama, of which it is our intention more particularly to treat, lies entirely between the parallels of 30° 10′ and 32° 30′ north latitude. The extreme southern limit bordering on the gulf of Mexico, for the space of 50 or 60 miles, is low and level, and covered with pine and cypress. The remainder, off the water courses, consists of rolling uplands interspersed with prairies. The soil of the ridges and uplands is generally sandy and unproductive, but throughout a large portion, particularly along the margins of rivers and creeks and in the prairies, it is most excellent, covered in some places in a state of nature with a dense and impenetrable growth of cane, and in others, clad in a forest of oak, hickory, dogwood, magnolia, &c.

The western limit of the great Atlantic plain at Columbus, Georgia, is very distinctly marked by a ledge of primary rocks, which recede at that point to the northwest through Alabama and Mississippi, until the Atlantic plain is merged in the Mississippi valley. Among the physical features that characterize this alluvial zone, the northern limit of which in passing near Wetumpka and Tuscaloosa is but little elevated above the Gulf of Mexico, and to which it gently slopes down, are that it is composed entirely of the tertiary and cretaceous deposits, and abounds in the sands and marls and organic remains of that series of formations, being furrowed with deep ravines and sluggish streams, interspersed with extensive morasses and swamps, and having wide arms of the Gulf of Mexico extending far inland. Thus this portion of the State presents a great southern inclination of surface to the action of the sun, filled with all kinds of organic matter undergoing decomposition, and creating one among the most extensive hotbeds of malaria known within the geographical limits of the Union.

The mean annual temperature of our climate may be stated at about 64° Fah., and although not subject to so great a thermometrical range as many other countries, still the variations from heat to cold are sudden and frequent, often rendering fires during the summer and fall months after sun down and blankets at night indispensable to comfort, and that after a day when the heat has ranged from 72° to 90°. The winters are so mild that the streams are never frozen over, and the heats of summer are greatly mitigated by refreshing breezes from the Gulf.

The principal rivers are the Mobile, the Alabama, and their tributaries, the Tombigbee, the Cahawba, the Talapoosa, and the Coosa, the two latter forming the Alabama. The Mobile, about 50 miles above the city of Mobile, is formed by the union of the Tombigbee and the Alabama, which latter is also a considerable stream, and is navigable for vessels, drawing from five to six feet water, to Claibourne, 60 miles above its junction; one hundred and fifty miles further, viz: to the mouth of the Cahawba, it has four or five feet of water, and from thence to the junction of the Tallapoosa and Coosa, and up the latter to Wetumpka it is navigable for light draught steamboats with few exceptions at all seasons of the year.

Mobile, the emporium of the State, is situated on the west bank of Mobile river, at its entrance into Mobile Bay, in latitude 30° 40″ north; it is laid out upon a beautiful and extended plain, elevated some fifteen feet above the highest tides, open to refreshing breezes from the bay and commanding a fine prospect.

The other towns on the Alabama, or immediately above the limits of the Atlantic plain, of any importance are St. Stephens upon the Tombigbee, Tuscaloosa upon the Black Warrior, Claibourne, Cahawba, Selma, and Montgomery upon the Alabama, and Wetumpka upon the Coosa.

As a general rule, South Alabama is but indifferently supplied with permanent springs, some of the most fertile dis-

tricts being almost entirely destitute. This is more especially true of the counties of Green, Marengo, and Sumpter, and the prairie portions of Montgomery and Lowndes. In these districts the artesian auger has been used to supply this deficiency.

From what has already been said it will be perceived that South Alabama proper consists almost entirely of Atlantic plain and slope, and that the extreme limits of the former terminate upon a circle drawn from Mobile and extending some hundred and fifty miles from the Gulf of Mexico, into the interior, embracing within its circumference St. Stephens, Cahawba, Selma, &c. This region, over which are scattered hill and valley, woodland and prairie, is emphatically that of long moss, and mosquetoes, the former gradually extending its mournful drapery, and the latter their musical companionship to the extreme boundary of the Atlantic slope.

To the mind of the believer in the malarial origin of fever, there is perhaps no particular region of the south or southwest that furnishes so many proofs in support of his opinion, as the one we have just described, and none, with whose history we are familiar, that affords so many bright examples in elucidation of some of the most obscure and long disputed points connected with this subject.

The greatest wonder with us is not that the atmosphere of the region we have been describing should during the summer and fall months become unhealthy, but that it should not actually become unfit for respiration, and instantaneously destructive of life. The question then is not whether our atmosphere becomes adulterated or sensibly altered, which all of the least observation are compelled to admit, but what kind of alteration it is that it undergoes, or what additional element it is that it receives. This as yet is a subject that has eluded the research of the most scientific. From many facts within our knowledge we are irresistibly driven to the conclusion, that for the development of yellow fever there must be some sensible alteration in the atmosphere of the lo-

cality, aside from that necessary to the production of other forms of bilious disorder. In a communication upon this subject, received by the writer from Dr. Edward Gault, of Selma, bearing date July 1st, 1846, it is remarked that during the summer of 1820 the heat was not greater than the present and many others, where the mercury ranges from 80° to 95° in the shade; with seasonable showers; nor did the yellow fever, or any other malignant epidemic prevail that summer in Mobile, or at any other point upon the Alabama river, equal to Cahawba, where the disease was of a high grade of remitting fever, in many instances terminating fatally upon the 3d, the 5th, and 7th days. It was rarely attended with black vomit, but frequently with collapse, and a chocolate, or brown cadaverous hue. Up to the fall of 1821, there had been no navigation of the river by steamboats, but since that time this means of communication has been introduced and has increased every year.

The situation of Cahawba is described by Dr. Gault as being low, upon the north bank of the Alabama river, which at high tides overflows the entire town. East, and above the town, the Cahawba river enters the Alabama, and upon the north, one mile, a creek enters the former; on the west is a considerable extent of marshy ground, giving vent to the water from a higher table of lands, two or three miles off in that direction. Across the Alabama river, at no great distance, was a pond, or lagoon, covering some 20 acres, which has since been drained.

In addition to the above causes, a large amount of alluvial soil was exposed to the action of the sun, from the cutting down of the timber and cane, and clearing up and putting into cultivation large districts of the surrounding country, and this, with the additional fact that but few, if any, of our citizens were acclimated, being generally from the old settled parts of the northern and middle States, a scarcity and an inferior quality of provisions, together with the disappointments and vexations incident to settling a new country, con-

stitute some of the remote and predisposing causes which in our opinion, operated most powerfully in the production of the epidemic under which we labored.

In 1827 the yellow fever appeared in Selma, and that section of the country known as the Pleasant Valley, ten or twelve miles north; one case under Dr. Phillips terminated fatally on the third day after black vomit, and several cases under my inspection on the fifth and seventh days after the same, some in collapse. There was no yellow fever in Mobile at the time.

The planters of the Valley attributed the fever to the extensive rot and decay of the roots of the cane brakes, which took place about that time.

In the year 1826, the yellow fever prevailed in Mobile, and the steamboats were so infected with the disease that several towns refused their stopping. Montgomery and perhaps also Selma, would not receive their sick. I have been credibly informed by the citizens of Mobile, that during the prevalence of this fever not one lived who attempted to remain in the city after an attack; that there was only a single case of death after removal to the country; and that not a solitary case of fever occurred in the country in any family among whom the sick were removed.

As regards the cessation of fevers at the beginning of frost, it appears from my observations that frost does not always check the prevailing fever of any type, unless when accompanied by a corresponding change in the atmosphere, and that change I presume would answer without frost. I have seen the fevers of the fall type in Tennessee continue until the middle of the following February.

Since residing upon the Alabama river, I have observed no cause so certain to produce a sickly summer, as an overflow or inundation in the spring, and the "*later* the *worse.*"

Dr. Heustis, in his work before alluded to, remarks that the low grounds and swamps adjacent to the Alabama and Cahawba rivers, were frequently inundated during the

spring of 1821, so that it was late in May before many of the farmers upon the rivers had an opportunity of planting, owing to the highness of water. A considerable rise in the river took place in July, and such was the quantity of rain that fell early in the summer, that many of the farmers were entirely frustrated in their attempts at planting, the earth being so completely wet and inundated, that the seed rotted in the ground; so that many were obliged to plant the same field three or four times, and then in several instances were doomed to lose their labor, and abandon the undertaking as hopeless.

Such indeed was the situation of affairs in many instances upon the river; in others less injury was sustained, and upon the uplands remote from the river the crops came forward with considerable certainty; even there, however, crops of corn and cotton were injured by the excessive rains, and replanting became a business of equal necessity.

The average range of the thermometer during the month of June, was at 7 A.M., 73°; 2 P.M., 85°; and 9 P.M., 77°; and throughout the month of July the average temperature, as indicated by the same thermometer, was, at 6 A.M., 71°; at 3 P.M., 84°; and, at 9 P.M., 75°; making the mean temperature throughout the day and night 76°.20.

'In Alabama,' continues the same author, 'we certainly have a much longer continuance of hot weather, as well as a higher range of temperature during the summer months, than is found to prevail in the State of Pennsylvania. I have frequently observed the thermometer as high as 90° or 96° in the passage of a tolerably cool house. This circumstance creates among us a greater liability to summer and autumnal diseases, than the inhabitants of more northern countries.'

In addition to the foregoing causes it may be remarked that the temperature throughout the months of August and September continued about equal to that of July, towards the latter part of which month, and when the rains had measurably ceased, and the water of the ponds and marshes had considerably evaporated, and the river had fallen within its banks, the

work of putrefaction went on with rapid strides, and disease began to make its appearance.

As it is a well established fact that a country clothed with a dense forest and luxuriant vegetation, from the protection furnished the surface of the earth by the thick foliage of the trees, and the evaporation from the leaves of the different vegetables, is *colder* and more *healthy* than one that is being cleared up, it follows as a matter of course that the climate of particular localities in Alabama, during the process of clearing, has undergone a considerable change in this particular, and that it is upon this hypothesis that we are enabled, to a considerable extent, to account satisfactorily for the various epidemics that have successively visited various sections of our State; nor have we the shadow of a doubt that circumstances such as we have detailed, together with the nature of the seasons, have been the remote cause of the fevers that have prevailed at different times at Cahawba, Selma, Mobile, St. Stephens, Montgomery, and Wetumpka, as well as the other towns and neighborhoods in South Alabama. That they will forever recur, at intervals, under similar circumstances, we are as thorougly satisfied and have as good reasons for believing.

After examining the rise and progress of yellow fever, throughout the southern portions of the United States, and comparing the facts thus acquired with the following table, it will appear that there is no well authenticated account of yellow fever prevailing as an epidemic further from the seacoast upon a straight line, than one hundred and fifty miles, and that this distance has only been acquired in four instances, under peculiar circumstances, as at Cahawba, Alabama, and Natchez, Mississippi.

GEORGIA.

Savannah—Lat. 32° 8′ north; long. 4° 10′ west. Tide water.

Augusta—Lat. 33° 24′ n., long. 4° 45′ west. Distance from tide water 110 miles.

Columbus—Lat. 32° 30′ n.; long. 8° west. Distance from tide water 165 miles.

ALABAMA.

Mobile—Lat. 30° 40″ n.; long. 11° 10′ west. Tide water.*

St. Stephens—Lat. 31° 30′ n.; long. 11° 5′ w. Distance from Mobile 64 miles.

Cahawba—Lat. 32° 20′ n.; long. 10° 10″ west. Distance from Mobile 130 miles.

Wetumpka—Lat. 32° 30′ n.; long. 9° 15′ west. Distance from Mobile 175 miles.

Tuscaloosa—Lat. 33° 15′ n.; long. 10° 38′ west. Distance from Mobile 180 miles.

LOUISIANA.

New Orleans—Lat. 29° 57″ n.; long. 14° 13′ west. Tide water.†

MISSISSIPPI.

Natchez—Lat. 31° 22′ n.; long. 14° 30′ west. Distance from New Orleans 105 miles.

As there are other places in the same latitude equally surrounded with all the local causes known, under favorable circumstances, to produce malaria in great abundance, it follows as a matter of course, that there must be some other action in the atmosphere, which being added to its already existing malarious constitution, renders it capable of producing the disease.

To illustrate our position more clearly, we will now endeavor to ascertain what this sensible alteration and its cause is, and then see if yellow fever does not always appear under exactly the circumstances known to be in existence at the places, and in the seasons that have been found by experience necessary to its production.

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* From Mobile to Mobile point 30 miles.

† From New Orleans to the Gulf of Mexico 55 miles.

We believe that it is a well established fact that yellow fever, so far as the United States are concerned, has never appeared as an epidemic in a higher latitude than 40° north, and even then but seldom, and immediately upon or very near the sea shore, as at New York, Philadelphia, Baltimore, Richmond, &c.

As there have as yet been but few hygrometric experiments made in the United States, and those, so far as we are able to ascertain, confined to its northern portions, remote from the ocean, we labor under great disadvantages in the investigation of this subject, but although in a great measure divested of necessary data, we have some observations bearing immediately upon the point which we think are of so clear a nature, that they will be sufficient to convince the most skeptical of the truth of the following propositions; namely: That if yellow fever does not always originate in low southern latitudes, immediately upon the ocean, or large bodies of water, under high, long, and continued heats, it is for the want of a corresponding alteration in the dew point; that these circumstances when they do occur below the line of 33° of latitude in Georgia, 32° in Alabama, and 31° 30′ in Mississippi, and south and south west of these points, are most generally attended with a high dew point; and that it is only when acting together, that they possess the power of producing the disease under consideration in an epidemic form.

Fortunately, remarks Dr. Lee, as a general rule in our climate (that of New York) the dew point is many degrees below the temperature; it is but rare indeed that they nearly or quite coincide, and when they do such weather is called sultry or close, and its depressing influence upon the system is too well known to be described; the very color of the skin, to say nothing of the languor of the mind, and the debility of the muscular system, shows that the blood does not undergo the proper change in the lungs. We also find that highly malignant fevers prevail where the dew point is below 60°, and that in high northern latitudes, and the northern

and middle portions of the United States, except at a few points below 40°, and upon the ocean, the heat is never sufficiently high for any length of time to carry the dew point up to the 60th degree. This, however, unfortunately for us is not so in our southern latitudes; here, within the tropics, and the country bordering thereon, we find as a general rule a hygrometric condition of the atmosphere vastly different from that which prevails in the temperate zones. With a high summer temperature, we have also a high dew point. Captain Alexander states that during his voyage to the river Gambia in Africa, the thermometer, on the 6th of October, stood at 80° in the shade, whilst the hygrometer stood at 70°. At another time the thermometer was 84°, and the hygrometer 79°.

The annual average mean of the hygrometer in the Island of St. Vincent, one of the Carribee Islands of the West Indies, in latitude 12° 23′, is always above 60°, and the average heat is proportionably high. Hence we infer that in Havana, Vera Cruz, and all other places where yellow fever and other high grades of bilious fever are prevalent, the mean heat and the dew point must be correspondingly high; and that for sometime before and during the prevalence of yellow fever, they approximate very closely to each other, and produce a close, sultry, and oppressive state of the atmosphere.

In the West Indies, yellow fever is endemic, and prevails from six to nine months of the year. When it becomes epidemic in the city of Havana, it is always under high and long-continued thermometrical and hygrometrical influences. These, in connexion with already existing malarious causes, never fail to produce the worst forms of the disease. It generally becomes epidemic in the city of Havana, which is in latitude 23° 12′, about the first or middle of May, and five or six weeks afterwards in the city of New Orleans. Shortly after its appearance in this latter city cases are also reported at Mobile, and afterwards at Savannah.

In its spread from New Orleans up the rivers throughout Louisiana and Mississippi, and from Mobile and Savannah, the same ratio of progression is observed, until it has reached the extreme limit of the Atlantic plain, where it ceases, from the well known fact that the epidemic constitution of the atatmosphere necessary to its production never passes this boundary.

Indissolubly connected with the foregoing causes, are some others that must exercise a controlling influence in the production and extension of our endemics; and of these perhaps heat, elevation, and winds, exert as great an influence as any others. In Alabama as we advance from the sea shore to the interior or hilly regions, bordering upon or beyond the extreme limits of both the Atlantic plain and slope, the summer heat is increased, and as we return to the sea board upon the same plain, the cold of winter is moderated in the same ratio.

From what has been said it is evident that the dew point and the thermometrical heat upon an island under the equator, or nearly so, as at St. Vincent, will at all seasons be nearly coincident; and that when the daily or monthly mean heat should steadily range from 80° to 95° in the shade, and the hygrometer indicate the dew point as correspondingly high, yellow fever, the highest grade of malarial disease known to these islands, or in the southern portions of the Union, would be developed.

This atmospheric condition, aided perhaps by other causes heretofore enumerated, being communicated through the influence of the land and sea breezes from the Island of Cuba, where it nearly always prevails, to New Orleans, Mobile, and Savannah, when it finds sufficient local food in these cities must produce, though perhaps in a less aggravated form, the same character of disease.

It has been demonstrated by actual experiment,* that when

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* British Army Meteorological Report.

the atmosphere is loaded with moisture, the heat of the same and the dew point more nearly approximate. Then with a temperature at New Orleans or Mobile throughout the months of June, July and August, ranging from 85° to 90°, with a corresponding elevation in the dew point, we could not expect anything else, provided moisture and vegetable matter were in sufficient quantities, but the prevalence of all the high grades of febrile disease. It must however be borne in mind that whilst the mean summer heat is greatly modified upon the coast by the sea breeze, the dew point owing to great moisture of the air has been ascertained to be frequently elevated. As we advance upon the Atlantic plain, and until we pass a certain elevation, the first is slightly increased, and the latter diminished, until we pass its confines, where they are no longer capable of producing high grades of malarial disease.

Although the relative difference between the mean summer temperature, upon the sea coast and the interior, has been shown to be greater at Tampa Bay, Florida, than at Jefferson Barracks, Missouri,* still we do not wish this to be taken as giving a fair representation of the fact upon that subject, so far as the great Atlantic plain in Georgia, Alabama, and Louisiana is concerned, as it is a well established position from innumerable thermometrical observations made at different times, and at various places, that the annual mean summer temperature is several degrees lower on the sea coast, upon the bays, the interior lakes, and for some distance up the large water courses than at other points upon the same plain, and remote from these. In fact only a small part of the southern regions of South Carolina, Alabama, Louisiana, or Mississippi, below the 33d, 32d, and 31st degrees of latitude, appear to be sufficiently elevated to cause a diminution in the summer heat; but on the contrary, off the large water courses the reverse obtains. The thermometer

* Forry on Climate.

ranges in the interior from 98° to 72°; whereas on the sea board it scarcely ever exceeds 91° or 92°. This difference was observed between Charleston and Columbia in 1808; it has also been noticed between Savannah and Augusta, Wetumpka and Mobile, and Natchez and New Orleans; and is greater in proportion to elevation and removal from the sea shore, and beyond the influence of the sea breeze, and other sources of moisture. In assuming the above position we do not wish to be understood as meaning to advance the idea, that the annual temperature is increased from the equator to the poles; but merely as stating a physical fact, in relation to the summer temperature of the regions in which yellow fever most generally, if not universally, delights to dwell.

From all that we can learn or have observed, we feel perfectly satisfied that the result of the combined operation of the remote causes heretofore enumerated, are such as to create a predisposition to disease, which only requires some exciting cause to develope the various grades of our autumnal fevers; and that they are all, from the simple intermittent to the more formidable yellow fever, the result of physical causes alone acting upon constitutional predisposition.

And here for the present we conclude. The treatment of fever remains to be considered, and that shall be made the subject of a future communication.

Wetumpka, July, 1846.

ART. II.—*A Case of Puerperal Mania from Suppression of the Lochia; and one of Mania a Potu complicated with Pleurisy.* By JAMES M. LARKINS, M.D., of Charlotte, Tenn.

Mrs. C., aged about 28 years, had been in a state of mental derangement for a month when I saw her at the beginning of June. The history of her case was as follows: She had been a delicate girl, her menstrual discharge having been attended with pain and difficulty; she was married at the age of 20 years, and is the mother of three children, the

youngest of which was nearly three months old when I was called to visit her. In her last confinement she had been attended by an ignorant midwife, who left her in the hands of a still more ignorant nurse. The nurse fancying there was something amiss in the lochial discharge undertook to suppress it by astringents, in which she was but too successful. The discharge, which ceased soon after delivery, was never reestablished, and the mind of the patient in a short time became excited and finally deranged. Her first medical attendant unfortunately knew little about diagnosis, and mistreated her case. He pronounced the affection one of pure mania, and resorted to the treatment usual in ordinary cases of that malady. Blisters were applied to the nape of her neck, and the cold dash employed.

When I saw the patient she presented the following appearances: Her eyes were blank, and her face expressive of great fear and distress; she was sleepless; her lower extremities cold; body alternately hot and dry, and suffused with perspiration; pressure over the region of the uterus caused her countenance to express pain though she did not complain of it; her language was wild, incoherent, and often obscene; though greatly exhausted, her muscular efforts were violent, so that she was restrained with difficulty. I adopted the following treatment: A large pill of asafœtida was given every hour or two, and a teaspoonful of sulphuric ether every four or five hours; her bowels were kept soluble and occasionally purged by hiera picra; the tepid hip bath was used once or twice daily; and she took every six hours a teaspoonful of a tonic mixture composed of sulphate of quinine and nitric acid.

The first night after this plan was adopted the patient slept quietly, and from that hour began rapidly to improve. In a fortnight she was restored to health of mind and body.

The following case of *mania a potu*, complicated with pleurisy, I had an opportunity of observing in Clinton, Ky., in March last. The patient who was a school teacher by oc-

cupation, was in the county jail waiting the session of Court by which the question of lunacy was to be tried. I found him with true pleuritic symptoms, but soon recognised the *mania* as that species induced by *drink.* He was accordingly removed from the jail to a private dwelling. The symptoms were of extreme severity—the tremors such as to shake his bed, the mental disturbance excessive; his tongue red and pointed; cough and pain in the side.

Bleeding was suggested by his medical attendant, but was not adopted on my dissenting from its propriety. A blister was applied over nearly the entire chest; oxymel of squills and mucilaginous drinks were given, and cold water poured over his head. In addition, for the cerebral symptoms, calomel and opium, 2 grains of the latter to 3 of the former, were administered every two hours. At first we tried smaller doses of opium but found them insufficient. In ten days from the adoption of this course the patient was relieved of the pleuritic symptoms, and also of his delirium.

July 15th, 1846.

ART. III.—*A Case of Tubercles of the Brain.* By WM. C. SNEED, M.D., of Frankfort, Ky.

The subject of this case was an inmate of the Kentucky penitentiary. He entered that institution about three years since, at which time he appeared to be a man of about thirty five years of age, and of good constitution; but he had been in the habit of indulging freely in ardent spirits. About two years since he entered the hospital of the prison, with some disease which we could not at that time clearly distinguish; he was feeble, complained of headache, loss of appetite, and general debility. After remaining in the hospital three or four weeks, and occasionally taking a little medicine, he recovered sufficiently to resume his occupation (that of *filling*

spinner), and so continued up to his last illness. About five weeks since he entered the hospital with diarrhœa and was placed under treatment for that disease; in a few days, however, he was relieved, and was placed by the keeper as a laborer in the stone-quarry near the walls of the prison, where he was exposed to the sun during the intensely hot weather in the early part of July.

In a few days he came again to the hospital complaining of great general debility and a pain in the front part of his head. Suspecting typhoid fever, we had his bowels evacuated, placed him upon rice water as a diet, and administered some mild diaphoretic medicine. He continued to emaciate, lost appetite, and remained in a half lethargic state up to the time of his death.

The pulse was slow and regular during the whole of the attack, varying from 55 to 70 beats in a minute; the tongue generally coated white, but never dry; there were no nervous symptoms, no paralysis, no delirium, nor symptom of any kind that indicated active disease of the brain. During the early stage of the attack the pupils of the eyes were somewhat contracted, but shortly before death slightly dilated; there was no indication of fever, nor any stupor; but he was able to distinguish and answer questions propounded the day before his death, which occurred on the 13th inst.

Autopsy six hours after death.—The abdomen was first opened, and the bowels found in a very contracted condition but otherwise healthy; the mesenteric glands were slightly enlarged and indurated, and the assisting chylopoietic viscera apparently healthy.

The thorax was next opened, and both lungs found adherent to the parietes of the chest, the left more extensively than the right, and both filled with crude undeveloped tubercles, very generally dispersed and more numerous in the right lung. Nothing being found in either of these cavities sufficient to produce death, we were led to the brain, confi-

dently expecting that in that viscus some lesion would present itself sufficient to produce it.

On removing the above, the glandulæ pacchaoni were found numerous and large, but none softened or suppurated; a collection of pus occupied a space the size of an eagle half dollar, to the right of the median line, and near the upper posterior angle of the right parietal bone; the dura mater appeared sound when the pus was removed, but the ulcer had extended nearly through the inner table of the skull.

Whether this ulcer was produced by caries of the inner table primarily, or by the softening of one of the glands, we were unable to determine; but caries existed and presented a phenomenon rarely met with. The dura mater was removed and found adherent to the pia mater at the frontal sinus, but no other part; and the arachnoid studded with tubercles, small but hard. Externally, the brain appeared natural, but a section of it presented an immense number of tubercles; in the cortical substance they were large and hard, but in the cineritious many had softened, and their places were occupied by yellow pus. They were not grouped, but generally dispersed; they were usually the size of a pea, and occupied almost every portion of the organ—both hemispheres, the corpora striata, thalami optici, medulla oblongata, crura cerebri and cerebelli. The ventricles contained more fluid than natural, but no evidences of recent inflammation of the brain were found.

The history of the case, together with the appearances found in the post-mortem examination, would lead me to the following conclusions:

1st. The disease had been approaching for years, but so gradually and slowly as not to give rise to any active symptoms.

2d. That it was of a scrofulous character, and would ultimately have attacked either the lungs or mesenteric glands, and in that way produced death.

It is remarkable that the formation and softening of so ma-

ny tubercles, did not give rise to more active symptoms than were present during his illness. We are at a loss to account for the slowness of the pulse, the absence of paralysis and fever, the rapid emaciation, and the clearness of his mind.

August 20th, 1846.

ART. IV.—*Notes on Medical Matters in Paris.* ,By DAVID W. YANDELL, M.D., of Louisville, Ky.

PARIS, October 1st, 1846.

The regular course of lectures in the *Ecole de Médecine* are just about to open, and while as yet I am not in possession of a sufficient amount of matter strictly medical to fill a letter, I propose to occupy a little space in the Journal with a description of the *Garden of Plants.* This wonderful assemblage of objects, relating not only to our profession but to nearly every branch of natural history, has great interest for the medical man. In the close of my letter I shall be able to present a few items of medical news.

Jardin des Plantes.—Louis XIII was persuaded by his physicians, Herouard, and Guy de la Brosse, to establish the Jardin des Plantes. In 1739 the celebrated naturalist Buffon was appointed superintendant, and through his unwavering devotion to its interests many valuable additions were made to the garden, and many illustrious names, among whom were A. Petit, Faujas de St. Fond, Winslow, Fourcroy, and Daubenton, were placed upon the list of its patrons and contributors. During the Revolution, when the universities, the faculties of medicine, law, etc., were suppressed, it was feared that the garden would suffer from the proscription, but as it was looked upon as national property, open to all classes of visitors, and intended for the culture of medicinal plants,

and the laboratory to be a manufacture of saltpetre, it was untouched. Throughout the Reign of Terror the garden was greatly neglected and crippled for the want of funds.

In 1814–'15 it was again endangered by the foreign troops; it was protected, however, by a special convention. Since that time the institution has been supported by the liberality of the State; large sums are annually voted for both the professors and pupils, the former of which are almost constantly occupied in and about the gardens, cabinets, lecture-rooms, and museums, and about eighteen hundred students annually listen to the courses of lectures delivered within the amphitheatre, laboratory, &c.

The garden is under the control of the Minister of the Interior, and consists of—1st. A botanical garden, with spacious hot-houses and green-houses. 2d. Several galleries containing collections, scientifically arranged, of the different kingdoms of nature. 3d. A gallery of comparative anatomy. 4th. A menagerie of living animals. 5th. A library of natural history. 6th. An amphitheatre, laboratories, &c. The lectures are all public and gratuitous; they begin in April and continue to the latter part of autumn; they are delivered early in the morning, and embrace various subjects connected with science. The amphitheatre is capable of holding twelve hundred persons. The number of species of plants cultivated in the botanical department is upwards of 12,000. Baron Cuvier arranged the cabinet of comparative anatomy, which I suppose surpasses any other in the world. Upon the first floor are the skeletons of the whale tribe; various marine animals; skeletons of every variety of the human species; skulls ranging from those of the lower animals up to man; large numbers of rooms up stairs are devoted to the dissections of fishes, reptiles, and birds, and some specimens of the human body. There are detached bones for the use of the students; series of the large bones and vertebræ of different animals; skeletons of quadrupeds; skeletons of birds, reptiles and fishes; series of teeth, commencing with those of the horse and ending with those of fishes; larynx and trachea,

and hyoid bones of birds and quadrupeds. In phials are a series of brains and eyes; the bones of the ear of animals, from man to reptiles; a series of hearts of mammalia, reptiles and fishes; a wax model of the viscera of the hen, exhibiting the several periods of the formation of the egg; fœtal preparations of oviparous and viviparous animals; preparations of different orders of mollusca, zoophytes, articulated animals and shell-fish in wax. Besides these there are preparations of the muscles and viscera; skulls and casts of distinguished individuals; heads, in wax, by M. Calenzuoli, of Florence, representing the lymphatic and nervous system; fossil remains, &c.

In the Gallery of Zoology there is a collection of upwards of 2000 reptiles, embracing more than 500 species, divided into four orders; namely, chelonians, or tortoises; saurians, or lizards, comprehending crocodiles, etc.; ophidians, or serpents; and batrachians, as toads, frogs, &c. Also articulated animals without vertebræ, to the number of 25,000 species. The collection of birds is very complete, containing 2,500 species, and about 10,000 specimens. The number of species of fishes is the same, though there are only 5000 specimens; the number of mammalia is something like 500 species and 2000 specimens. Altogether the number of specimens of the animal kingdom is 200,000, and so beautifully and systematically arranged, that, beginning with the sponge, you may follow nature through her various gradations till she arrives at man.

The busts of Guy de la Brosse, Baron Cuvier, and others are in the building; a marble statue of Buffon also is in the gallery of zoology. The library, composed of works on natural history, has opposite its entrance a bust of Fourcroy; it contains 30,000 books and 15,000 pamphlets, but by far its most precious part are the manuscripts commenced in 1635, numbering now 90 port-folios, containing more than 6000 drawings of fruits and flowers upon vellum, and valued at two millions of francs.

There are in the mineralogical and geological gallery upwards of 60,000 specimens. The mineralogical collection

is divided into the four grand classes,—1. earths containing an acid; 2, inflammable substances; 3, metals; 4, earthy substances or stones. Of the first and last there are many beautiful specimens, among them a vase of the brecciated porphyry of the Vosges, a large group of crystals of colorless quartz, &c., numerous cups of chalcedony, lapis lazuli, &c., &c.

Among the metallic substances are a great many aerolites. In the collection of inflammable substances are some pieces of yellow amber which contain insects imbedded while it was in its liquid state; a series of diamonds, &c.

The geological specimens are large, and the collection of fossils very complete. Valliant founded the botanical gallery. The herbal contains upwards of 50,000 species. The two cabinets of the fungi in wax, which was presented to the museum by Charles X and the Emperor of Austria, is very perfect, and its value is set down at 20,000 francs. M. Brongniart has arranged a collection of fossil plants from the coal formations, which is scientifically done and very interesting.

Of the menagerie it is hardly worth while to speak, save probably to say that it affords the student of natural history every opportunity to study the habits of a very large number of animals.

There are no animals in the collection that attract such crowds as the monkies do. They are provided with a commodious circular building of wire, and go to the garden when you will there are always around this establishment a number of Frenchmen, women, and children, enjoying as much as the monkies do themselves their gambols, quarrels, courtships, and races. In a collection of animals so large as this it is not to be expected that all the specimens will be perfect or healthy, and many of the poor creatures look miserably enough. The snake tribe, whose apartments are warm and protected from vicissitudes of temperature, are in good condition. This is a mere skeleton of a description of the garden, about which a volume might be written; but for the present it must suffice.

M. Marchal de Calvi, of the hospital of Val-de-Grace, has been employing for some time past iodine in a new form. The iodine is dissolved in oil, in the proportion of 1 grain to 18 grains. He takes afterwards a certain fixed quantity of the solution, mixes it with gum in a mortar, and forms an emulsion.

M. Marchal commences by prescribing one grain of iodine, or eighteen grains of the oily solution. The dose may be gradually augmented to six grains. Notwithstanding so large a dose has been used no unpleasant effects have been produced on the digestive tube. The patients preserve their appetite, and digestion is performed properly. This new preparation has been used with remarkable success in many cases of scrofulous swellings of the glands that had attained very great volume. Iodine in this form remains for a much longer time in the economy than the iodine with potassa. In place of iodide of potassium, M. Marchal uses the iodide of sodium, because he thinks it more active, from its containing a greater equivalent of iodine than the preparation containing potassa.

Dr. Desmarres reccommends in strong terms an anti-ophthalmic ointment prepared according to the following formula:

℞ Red precipitate 2 ä 4 grains.
Pulverised camphor 3 grains.
Olive oil 1 drop.

Mix and pulverise with care for a considerable length of time, afterwards add of fresh butter which has been washed in hot water, 54 grains. Make a perfectly homogeneous ointment.

It is used with great advantage in chronic inflammation of the transparent cornea, improperly called ophthalmia, among scrofulous individuals. Dr. D. has also prescribed it with much success in cases of spots not yet organised upon the cornea. The mode of employing it consists in applying in the evening just before going to bed a piece of the ointment the size of a grain of wheat upon the free borders of the eye lids.

Before the Academy of Sciences at its meeting on the 21st of September, Dr. Legrand spoke of the *action of gold upon the digestive organs.* The preparations of gold he believes are often of signal benefit to correct the gradual enfeeblement of the digestive organs, in old persons, in cases where quinine had effected no good. He mentioned the case of a woman 87 years of age, who was suffering from extreme debility, loss of appetite, &c. Syrup of quinine had been tried without advantage. Dr. Legrand prescribed 5 grains of gold mixed with ʒiv. of apple jelly. In sixteen days the dose of gold was augmented from the third of a grain per day to five grains. In twenty-five days the patient had taken 54 grains of gold, and the good was very perceptible; she had recovered much of her strength, her appetite was restored, and her food was taken with pleasure. A suspension of the remedy led to a return of the indisposition. The medicine was again given in even larger quantities than before, and resulted in the permanent cure of the patient. More recently the author has used another preparation of gold in a man 63 years old, who had been debilitated by antiphlogistic treatment, with similar success. In this case the preparation in question was the perchloride of gold and soda, with the powder of iris, which was rubbed upon the tongue.

The Duke of Dondeauville, in Germany, announces that he has discovered a remedy for the bite of rabid dogs. It consists of several glasses, one only at a time, of an infusion made of a small quantity of euphorbia villosa, veratrum album, polygonum hydropiper, and helleborus vulgaris. The plants must be gathered in May, early in June, or in September. While the infusion is preparing, the wound is to be washed with vinegar and water. Besides the virtue of healing, this remedy possesses another which is even more remarkable; it detects whether the dog that inflicted the bite was really rabid. If he was mad, the third, or at most, the fourth dose produces violent vomiting; if not mad the remedy possesses no such power.

REVIEWS.

ART. V.—*The Writings of Hippocrates and Galen.* Epitomised from the original Latin Translations. By JOHN REDMAN COXE, M.D., Member of the Batavian Society of Sciences at Haarlem; of the Royal Medical Society of Copenhagen, &c. *Multa renascentur.* Philadelphia: Lindsay & Blakiston. 1846. 8vo. pp. 681.

Hippocrates is usually styled the "*Father of Medicine*," and it is the custom to regard our science as having originated with him. Few writers have thought worth while to go farther back than the age of this great man, to whom indeed we are indebted for nearly all that is known of what his predecessors did for the healing art. That they accomplished not a little in physiology, anatomy, materia medica, dietetics, and hygiene generally, is manifest from his own writings. Among the many books ascribed to him there is a treatise concerning "*Ancient Medicine*," in which the views of the physicians who had lived before him are unfolded. We learn from him that surgery was practised with a considerable degree of success in his day, and that a competent knowledge of many parts of the human body had been attained. It is therefore evident, that in exalting Hippocrates to the rank which he has so long held, we are doing great injustice to the laborers in medical science who preceded him. He deserves all the honor due to the faithful narrator of their achievements, but we cannot with any justice ascribe to him discoveries of which he is merely the historian. But

for his writings much of what was done by the earlier physicians would never have been known to succeeding ages: we are indebted to him for all that we know of the fabric of medical science in his day, and we have very naturally concluded that the fair temple was a work of his own building. But not even all the writings which pass under his name are supposed to be his; far the larger number are regarded as the productions of others, his agency consisting in having collected them into one body. Nearly seventy treatises are embraced in the "Writings of Hippocrates," of which only about twelve or fourteen are uniformly attributed to him. The others have been ascribed by his editors and translators to his son, his son-in-law, or writers who flourished anterior or subsequent to his times. His credit unquestionably is very great, but we agree with the present editor of his works, that whatever merit we may think fit to award to him, "we ought not so far to forget the other great men by whose means he was enabled to reach the pinnacle of fame, as not even to grant them a niche in that temple of which he was indeed the brightest ornament." Great as are our obligations to him they would have been greater, if he had taken pains to specify individually the predecessors whose works are now incorporated with his own in a way to render hopeless the efforts of annotators to distinguish between them. But in writing a notice of Dr. Coxe's epitome of the works of Hippocrates we had it in view not to criticise them, but to present such extracts from the various treatises as would convey to our readers some idea of the matter they contain.

The first section relates to the famous "Oath of Hippocrates," which Dr. Coxe thinks was written by some one who lived posterior to him. In this oath the pupil binds himself to regard his preceptor as a parent, and his children as relations; engaging to teach the science to them without a fee, as he would do his own, and that without a previous assumption of this oath he will teach the science to no one; promising to act faithfully towards the sick, prohibiting all that could harm them, and never prescribing poisons or rem-

edies for procuring abortion; vowing that he will never operate for the stone, but leave it to those who are devoted to it; professing to live a chaste and pious life, to observe profound secresy in his profession as to family transactions, to avoid all corrupt influence with either sex in the employment of aphrodisiacs; and in case he should act in opposition to the above, praying that he may neither live long, be successful in his pursuits, or become celebrated in his profession; but that if he scrupulously observe these rules, the reverse may be his destiny.

We copy the entire treatise on the *requisites* to constitute the accomplished physician, from which it will be seen that so early as the days of Hippocrates evils of which we still complain had come upon the profession. It is also manifest enough that this great philosopher entertained a sufficiently exalted opinion of his calling.

"Of all the arts, medicine is the most illustrious; but the ignorance of its professors, and that of those who judge of their qualifications, is the cause of its having been considered as among the most contemptible. This, in my opinion arises chiefly, from the circumstance, that medicine is the only profession, for which, in our cities, there is no penalty attached to such as ignorantly pursue it, beyond that of contempt. But ignominy scarcely wounds the ignorant. It is with them, as with the dumb performers of the theatre: they have the form, the dress, and mask of the real actors, but in nothing else do they resemble them. So we find many who are physicians in name and appearance,—but few who are such in reality. Six things are required to constitute a physician:—Natural talents; a good education; a competent instructor; early study, industry, and adequate time. The chief of these, is natural talent. In want of this, all is useless. But if this is possessed, the art may be acquired, by due attainments previously;—and by beginning to study at an early age, and in a proper place. We must, moreover, be industrious, and continue long in study, by which means the science becomes, as it were, natural—rapidly increases, —extends its researches, and brings forth mature fruit.

"The study of medicine may be compared to the culture of plants. Our nature or disposition is the ground; the precepts

of the teacher are the seed; commencing our studies early, resembles the sowing of the seed in a proper season; an appropriate location for the pursuits of study, resembles the surrounding atmosphere which affords nourishment and growth to the plant; diligence in study, is like the various means pursued to render the ground fertile; finally, the long continuance of our studies, resembles the period essential to full and perfect fructification.

"Those who fully attend to the above precepts, will attain to a true knowledge of medicine, and should every where be considered as masters of their profession, and not merely nominal physicians. They may come forward with confidence; whilst ignorance proves but a poor foundation, and an empty treasury at all times; the enemy of all confidence and trust; a source of audacity as well as of timidity—since timidity is the offspring of weakness, as audacity is of ignorance. Science and opinion govern the world: the one points out our knowledge—the latter our deficiency. Things of a sacred character should be unveiled to the pure alone; for it is sacrilegious to communicate them to the profane, before they have been initiated into the mysteries of science."

In the next treatise we have a defence of medicine against its calumniators. It is one the authenticity of which has been doubted. Medicine is defined to be "an art that cures the sick, or lessens their pains, and which has nothing to do with incurable diseases." To the objection of its enemies that the larger part of those who are cured owe it to good luck, and not to the rules of art, he replies—

"I have no desire to rob Fortune of her just rights, and therefore I must acknowledge that all who are well attended to, are very fortunate, whilst those who are neglected or illy treated, are extremely unlucky. But how happens it that those who are cured, should prefer ascribing it to anything rather than to art, when their cure has been actually accomplished solely by their having employed and attended to its rules? They did not commit themselves to fortune, but called in the assistance of art. Hence, they are in this respect altogether absolved from all acknowledgment of the former, but not so with respect to art. They recognise art, insomuch as they pursued its rules, and cannot deny its existence, when evinced in the effects it has produced.

"But it will be said, that many sick persons have been cured without the aid of a physician. Who doubts this? It is very possible, that without having called in a physician, they, nevertheless, have fallen into the arms of medicine. Not that they knew what medicine approved of, or disapproved; but they happily employed the very means which a good physician would himself have made use of, had he been called to their assistance; and, it is a strong evidence of art and its powers, when those, who have no belief in it, yet owe their safety to its rules: for it is certain, that those who have recovered, without the aid of a physician, must have been cured, either by doing certain things, or by doing nothing. In fact, they have been saved, by food or by abstinence; by drinking or abstaining from drinks; by bathing or not bathing; by labor or rest; by watching or sleeping; or by an alternation of all these. Now, since benefit was obtained, they must of necessity admit, that there was something done, by which that benefit was obtained. On the contrary, if injury was sustained, it must equally have arisen from something. It is indeed true, that few are qualified to distinguish between what was beneficial or hurtful to them. He, however, who is capable of such a discrimination, and of justly appreciating the measures he may have adopted, will equally discover, that what has saved him, is, in fact, a part of medicine. Even the faults he may have committed, are not less striking evidences of the existence of medicine; for, that which benefited, did so, only on account of its timely employment; as, on the contrary, what was injurious, was so, only on an opposite reason. Now, wherever the good, or the bad, has its own peculiar termination, how can it appear that art has no existence? For myself, I think, that art can alone be absent, when what was done, produced neither a good nor a bad effect; and that, when either appears, the existence of art, is fully substantiated."

He takes an enlarged view of medicine, and so far from limiting its office to the administration of drugs, shows that it embraces whatever is calculated to affect the sick. He says—

"I admit, that if medicine and physicians effected cures by purgatives or astringents alone, our arguments would be weak;—but we see the ablest physicians cure diseases by re-

gimen, as well as by every other kind of remedies. Now, we must admit, unless we are ignorant, or deficient in understanding, that the employment of regimen, is a dependent on art. Nothing is useless in medicine in the hands of good physicians—we see various remedies, and cures in many instances, under the operation of nature, as well as through that of human industry; and such as have been restored without the aid of a physician, can in no respect attribute their recovery to chance, with any just foundation."

The *art of medicine in former times* is the subject of the fourth treatise, which is, as all the commentators agree, "learnedly and acutely written," but by most of them is not believed to be the production of Hippocrates. It points out the antiquity, invention, certainty, and importance of medicine. The errors into which a false theory had led many are indicated, and the writer goes on to add that—

"Recourse to hypothesis should therefore be avoided in medicine, and left to subjects obscure and doubtful, which afford nothing better to their advocates. Thus in astronomy, &c., however persuaded we may be of the truth of our opinions, yet we cannot establish them fully, so as to destroy completely the doubts of others, since there is no established rule of truth, to which we can at all times refer. Such a rule, however, exists in medicine; it is an art of long existence, of sure principles, and certain regulations, through which, for a long period, numerous discoveries have been made, and which are confirmed by experience, unmixed with hypothesis. Much is, however, still required to render it perfect, by the researches of the learned; and by the aid of what is already known, endeavor to obtain the knowledge of that we know not. All those who depart from well-established rules, to riot in the path of novelty, and boast of having discovered something in our art, deceive themselves as well as others. I shall endeavor to prove this, by pointing out what medicine really is; from which it will appear, that all deviation from its present route is to be avoided."

The reader will smile at the comparison here instituted between medicine and astronomy, and at the compliment to the superior certainty of the former. Truly, as remarked by

the writer, "much is still required to render it perfect," although two thousand years and more have passed away since he dwelt with so much complacency upon its antiquity and "sure principles."

The fifth treatise is intended to point out some short precepts and advice as to what is essential to the physician; and first as to his exterior. He ought to have "a healthy appearance, for otherwise the public will not believe that he is qualified to attend to the health of others. His dress should be neat, and his person clean and unperfumed, lest it might be supposed he employed perfumes to conceal some disagreeable emanation, that might be unpleasant to the sick."

"As to internal qualifications, he should possess much prudence; not that merely which prevents indiscreet or untimely conversation, but in all his concerns. His mode of life should be perfectly correct; for good manners and modesty contribute greatly to his reputation. He ought to possess circumspection and humanity: haste and assurance will be followed by contempt, although they may occasionally benefit him, for it is not always possible to avoid his services. They are at times useful, but rarely to be employed by the physician who desires to secure esteem.

"In regard to manners, he should be grave, without austerity, lest he should be considered proud or misanthropical; and he should avoid perpetual laughter and hilarity, for they are not at all times acceptable. In his moral character justice should predominate. It is at all times of infinite importance and especially in that intercourse that exists between the physician and his patients. These place themselves entirely in his hands; at all times, wives, daughters, and goods are placed at his discretion. Well then does it behoove the physician to be continually on his guard.—And thus much in regard to his mind and body."

The sixth treatise, which relates to decency in the manners and dress of the physician, has always been considered spurious, according to Haller, but is nevertheless the work of a philosophic mind, abounding in sound morality, and instructing the practitioner in all his duties. Thus early had

the inductive philosophy been embraced by some. "Instruction, to be beneficial," says the writer of this treatise, "*should be founded on facts.* Arts are deduced from reflection, but any reflections or reasoning, not accompanied by facts, evince that fault somewhere exists." This is worthy of Bacon, and shows how soon men began to perceive the futility of speculation. We err continually in ascribing great revolutions or discoveries in science and philosophy to single individuals. Thousands of years before Bacon's time, men had pursued the true inductive process. The following passage is admirable:

"It may be concluded then, admitting the truth of the preceding remarks, that knowledge and medicine must go hand in hand. The physician who is truly a philosopher is a demigod. Medicine and philosophy are closely allied. That which is taught by the latter, is practised by the former,—contempt of riches, moderation, decency, modesty, honor, justice, affability, cleanliness, gravity, a just appreciation of all the wants of life, courage in adversity—opposition to fraud and superstition, and due consideration of the Divine power. The physician is perpetually exposed to the hazards of incontinence, turpitude, avarice, intemperance, detraction, and insolence. How far these may influence his character, may be estimated by his conduct towards his patients, his friends, and families. In all these particulars, the appropriate connexion of wisdom and of medicine, is conspicuous; but particularly so in respect to the Deity, towards whom the thoughts of the physician must be perpetually directed; for the various accidents of life which come under his notice must compel him to acknowledge His omnipotence. He dare not ascribe to his art unqualified power, when he reflects on its frequent failure; even when success attends, it is to Heaven alone he owes it. We perceive now, how medicine leads to wisdom. They, even, who disbelieve in Providence, are compelled to recognise it in their examination of what takes place in the system, in the change of forms produced, and of the cures, both surgical and medical, from operations, or from internal remedies, and good regimen. These are considerations of extreme importance.

"Besides what is said above, something more is wanting to the physician. This is urbanity. Austerity, repulsive to

those in health, is much more so to the sick. He must carefully avoid exposing his body too much, or discoursing with the bystanders beyond what is absolutely necessary. A good physician avoids all measures that are not conducive to the welfare of the patient; he adopts nothing that is singular or inefficient."

* * * * * * *

"Previous to seeing the sick, he should consider what he may find it necessary to do,—for it is assistance that is needed, and not speculation. Experience will enable him to foresee what may take place; this gives him credit, and is always very difficult. On entering a sick chamber, he should pay attention to his mode of seating himself, the arranging his dress (mantle); he should talk but little, and neither be disturbed himself, nor trouble others. Address the patient cautiously, and let his own remarks be calm, even if agitation and apprehension exist around him. By this he will show that he knows what is to be done on the existing occasion. He then may give his directions, and mention his opinion, as to what further may ensue."

The next treatise comprises the 'Precepts of Hippocrates,' and though confessedly a spurious book, Haller assures us that it is by no means an unimportant one. Its beginning and close appear to have been borrowed from Hippocrates, "to whose brevity and gravity" the critics conceive that it "approximates." It imparts advice to the physician relative to his fees, his remedies, and food, treats of consultations, and denounces the impudence of quackery. "In short," as remarked by Dr. Coxe, "like the preceding treatise, it contains many general precepts that are well calculated to excite reflection in a philosophic physician, and to prove useful to him." Take the following as an example:

"No difficulty should be made at receiving information from the most illiterate, provided it appears that they have some knowledge of the subject under consideration. It was thus, I think, that our art had its origin; collecting together from all quarters, a body of facts. We ought not to neglect what chance may present, especially if it be reiterated; listening with attention in order to profit, and not repulsing our informant, by boasting of our cures, and deeming his experi-

ence void of utility. Doubts as to remedies spoken of as if alone appropriate, are highly proper. This does not imply obstinacy; all diseases, from a variety of circumstances require at times a difference of treatment."

We suppose every medical man will assent to the truth of the first proposition contained in the following extract, however odd the practice alluded to in the second sentence may appear to him.

"A point deserving of attention in medicine, is respecting the fee of the physician. If he commences by speaking of payment, the patient will presume that he will not be neglected. By not attending to this, he will be led to imagine that your attendance will be irregular. I apprehend therefore that a stipulation as to this particular is perfectly correct, except in cases of an acute nature. Here, the rapidity of the disease admits of no delay; and humanity will lead the physician to think more of the esteem he may acquire, than of mere profit. It is far preferable in such cases to bear the ingratitude of those you preserve, than to stipulate for payment whilst the patient is in danger. It is true, some persons who under the pretence of the hospitality afforded, or the facility of cure, object to payment. Such are worthy of contempt alone. The sick should be considered in the light of the shipwrecked mariner. And where is the real physician who will not rather faithfully afford his services, than act with inhumanity and rigor? Wherefore, when you have made yourself acquainted with the disease, pursue a regular mode of treatment, and neglect nothing that may prove conducive to a cure. Your views as to payment should be moderate, yet sufficient to recompense your labor, without however despising wealth. And with respect to the poor, to visit them gratuitously; preferring thus the pleasure of a grateful mind, to the increase of pomp and parade. Strangers and the poor demand peculiar attention from the physician, for no one can have a proper regard for medicine, who forgets his duty to his fellow-creatures."

In all ages the complaint of physicians has been the same —that the value of their services is not recognised. So we find it was in the days of this ancient writer; so we find it in

our own times. Men fly to us in the hour of danger, and "are exuberant in their professions and promises," but on the return of health these are forgotten. As expressed in the book before us—

"If, now, you would institute a comparison as to the ingratitude of patients, it will be seen that for the most part all are deficient in a due recognition of the services of the physician. The poor, at first, are mild and obedient, but ingratitude and ill behavior too often succeed. The affluent, in sickness, are exhuberant in their professions and promises; but in health, when reminded of payment, they excuse their neglect by their rents not being received, and then think no more on the subject."

The next treatise introduced to his readers by Dr. Coxe is the *book of prognostics*, which, we are informed, is uniformly considered one of the genuine writings of Hippocrates. So valuable did it seem to some of his editors, that they exhorted all physicians to commit it to memery. One of them thus expresses himself concerning it—

"It is unquestionably one of the most precious of the writings of the father of medicine. In it, the physician will find the foundation of the whole doctrine of crises, of urines, expectoration, hemorrhages, abcesses, &c., and everywhere a master's hand is apparent, so that it appears perfect and complete. Such is not the case with the aphorisms,—and I think every physician would find it useful to commit it to memory. Its brevity is its principal defect. It is nevertheless highly probable, that many of our present race of doctors will ridicule many things that are to be found therein, more especially the statement relating to urines; for it is now beneath their dignity to examine the urine of the sick, or even their expectoration for the most part! My own constant observation of the urine, preserved in glasses for inspection, has confirmed me in my opinion of the correctness of the Hippocratic doctrines. In respect to the pulse, which Hippocrates attended to but in a very slight degree, I think we err in depending so much upon it to the exclusion of those particulars almost entirely, in which he had the greatest confidence."

The following extract contains a description of the *Hippocratic countenance:*

"In acute diseases, the first thing to be noticed is the countenance. Does it look like that of health? especially is it perfectly natural? The more it differs therefrom the worse. A sharp nose, hollow eyes, temples collapsed, the brows knit, ears cold and contracted, and their lobes inverted, the forehead hard, dry, and tense, the whole countenance pallid, greenish, black, livid, or of a leaden hue. If at the *commencement* of disease such is the aspect, without other accompanying symptoms, in order to form a right judgment, it will be proper to inquire whether it may not depend on excessive want of rest, on violent purgation, or even on want of food. In either case, the state of the countenance is of less consequence, and the disordered system may be restored in twenty-four hours; but if it arises from other causes, and does not change in that space of time, we may safely affirm that death is not far distant."

Hippocrates had observed that patients with diarrhœa, or under the influence of a purgative, often sleep with their eyes partly open; except in such cases he deemed the symptom a bad one, usually portending death.

His prognostics, founded as they are upon observation, continue to be the experience of physicians, and are so clear, precise, and faithful, that it would not be easy to improve upon most of them. What, for example, could be more true than the following?

"With respect to the *decubitus* of the patient, that situation is best, that approaches nearest to that of health—as lying on the side, with the arms, neck, and legs slightly bended, with a gentle moisture over the surface? To lie on the back, with rigid neck and limbs is bad; but if the patient slides from the pillow towards the foot of the bed, it is infinitely worse. The feet uncovered and cold, the legs, and arms, and neck the same, and in continual jactitation, are symptoms indicating great anxiety. Sleeping on the back, with the mouth constantly open, and the legs strongly interlocked, is fatal. Lying on the belly, if unusual in health, is

symptomatic of delirium or severe pain. Sitting upright at the acme of the disease, is bad in all acute cases, but in pulmonic affections, indicates the greatest danger. Gritting of the teeth in fever, unless it be a long existing habit, is a sign of approaching delirium and death: if occurring in the state of delirium, it is fatal.

"*Sores*, both old and recent, should be noticed. If the disease is mortal, they become livid, dry, or pallid, and quite dry shortly before death.

"My remarks as to the *motions of the hands* are the following. In acute fevers, pulmonary inflammation, phrenitis or headache, if the patient moves them before his face, to and fro, as if catching at flies or motes, or picks the bedclothes or the walls, his state is desperate.

"*Frequent respiration* denotes pain or inflammation above the diaphragm; deep and very slow respiration announces delirium; cold expiration from the nose and mouth is mostly a fatal sign. An easy breathing in acute diseases, with fever which terminates within forty days, is very salutary.

"*Sweats* are beneficial in all acute diseases, if they occur on critical days, and remove the fever. Likewise when they are universal, and do not weaken the patient: otherwise they are injurious. Cold sweats, or, if limited to the head, the face, or neck, are bad; and if associated with violent fever, indicate death. If the fever is moderate, they indicate a long disease. If they form in drops, like millet seed, about the neck only, it is bad; but if universal over the body, it is a favorable symptom. Sweats arising from debility, or from violent inflammation, are never salutary."

We cannot say so much for the philosophy of the Father of Medicine. When he leaves the region of fact and approaches the borders of theory, he betrays a weakness common to men—his speculations are flimsy, and oftentimes most absurd. Thus, in the chapter on humors:—

"We must consider if the patient be accustomed to work, or inactivity; notice his sleep and watchfulness; if easily excited or depressed, and if such influence is partial or universal, or the result of the measures adopted. Also, if at or near the increase of the disease, or at its decline, and if the feet are cold. In periodic complaints, during the access, we

must not give food or force it upon him. At the crisis, and even a short time before, nothing should be done, but leave all to nature. After concoction has taken place, then we may act; never whilst the humours are crude, or at the beginning, unless by their force they tend to discharge themselves, which is rarely the case. When necessary to evacuate, effect this through those channels to which a tendency is evident. The utility of evacuations is not to be estimated by their quantity, but by their fitness, and by the relief they afford. When it is necessary to induce debility and faintness, this may be effected by derivation, or by drying up, or moistening, as the case may be, that is, if the patient can bear it. This is known by parts naturally dry, becoming hot, and those that are moist, becoming cold. Alvine discharges are here generally to be restrained. If the disease is periodic, and well marked by exacerbation on uneven days, emetics are given,—and purgatives on even days; for we find spontaneous evacuations useful, unless the exacerbation occurs on even days,—in which case the treatment is to be reversed. Such, however, seldom occur, and with difficulty is a crisis produced. If such a type continues for any time, as for instance if the increase is well marked on the thirteenth or fourteenth day, then we should purge on the thirteenth, and vomit on the fourteenth, by which a crisis is assisted. In such as extend to twenty days, besides the regular stools, copious purgation should be employed before the crisis."

And again, on the same subject he says,—"In summer bile is produced, and blood in spring, and thus of the other humors." In another place,—"Winter is a season of relaxation, and requires light nourishment and of easy digestion;" which is right in the face of all our chemical philosophy. The following, again,—"Humidity after extreme drought is promotive of dropsies on the coming on of rain, or when slight changes of the wind are apparent.

As a specimen of the aphorisms contained in the book on *crises* we subjoin the following:

"*Judgments of unexpected pains—Of dropsies—Of leucophlegmatia—Diarrhœa—Volvulus—Cephalalgia—Ophthalmia—Convulsions—Tetanus.* In sudden pains, with swelling of

the hypochondria, if the pains extend to the false ribs, bleeding and purging remove them; for fever will not attack with violence a weakened part. In dropsy, if the water finds a passage by the vessels to the intestines or bladder, a cure will result. A copious diarrhœa cures a leucophlegmasia. Such as are affected with a chronic diarrhœa, accompanied with cough, are not cured, except a severe pain in the feet attacks them. If any change in the nature of a disease is likely to happen, no diarrhœa attending, and merely flatus discharged, showing the absence of humors, you may safely administer what is proper for the patient. In iliac passion, give plenty of pure, cold wine, by small doses, until sleep, or pain of the legs ensue: fever or dysentery stops its progress. A discharge of pus from the ears or nostrils, checks headache in diseases. Whoever in health is suddenly attacked with headache, loss of speech, and snoring, will die within seven days, if fever does not come on. In severe and general headaches, apply cups to the upper parts.—Should pains of the ischium or knees, or asthma take place, the headache ceases. In ophthalmia, a diarrhœa is useful. In spasm or tetanus, a fever coming on removes it. In fever, if spasm occurs, the fever is arrested within three days. In spasm of the hands and feet, if mania occurs, if the vessels of the hands beat, the face full, the hypochondria hard and swelled, the disease will be tedious, but without convulsions."

The opening chapter of the book on *critical days* has the following caption: *What is essential to be known to the physician is here pointed out, to prevent his being deceived.* And yet physicians are, now and then, deceived, and, we fear, will continue to be to the end of time, notwithstanding the present translation of Hippocrates. Let us see what "essential" things are here "pointed out."

"I esteem it an important part of our art, to be well acquainted with the best writings that have reached us on the subject; for he who is thus informed and properly employs his knowledge, cannot, in my opinion, make many mistakes. Now, he should know the constitution of the different seasons of the year and of diseases accurately; and of diseases individually—the good or bad of each, either as depending on their own peculiar character, or on the existing state of

things; the sign that announces their duration and danger; of chronic diseases, which are salutary; and if acute—which are dangerous, which safe. He should know from these how to judge of the order of critical days, and to predict from them the event; and deduce his rules as to the proper regulation of diet, as to time, amount, and quality. It is of the highest import to the welfare of a patient in ardent fever, that the disease and everything connected with it, should be consistent with its nature; for what depends on natural laws, is salutary. A second and not less important circumstance is, the concurrence of the season with the disease; for the nature of man is not superior to the power of the universe. After this, we are to notice the general appearance of the patient; if the face is extenuated; if the vessels of the hands and in the angles of the eyes, and the eyebrows are quiescent, after having been previously active; if the voice is weaker and softer; the respiration less frequent and laborious than before;—in such a case, a remission will occur the following day; and hence the importance of attending to every circumstance connected with crises. Examine the tongue, whether its body or tip is furred or moist, and in what degree. If all these signs are but slight, a change for the better will occur probably on the third day; but if more strongly marked, the succeeding day, or even the same day, when they are of the highest grade. The white of the eye, moreover, is necessarily rendered dull when the disease is violent; when brilliant, it is a sign of health, and indicates its approach in proportion as its brilliancy is restored."

The first sentiment is excellent, and the only regret one feels in contemplating it is, that the great sage did not mention the names of the authors whose labors and celebrity he has unceremoniously absorbed. That he entertained a very high opinion of the wisdom of their teachings is evident from the latter clause of the first sentence. It is a matter of serious doubt whether many writers of the present day would hazard so favorable a judgment respecting "the writings that have reached us," or even those of contemporary authors.

The liver has had many sins to answer for in all ages of medicine. It has been made a sort of scapegoat for the ailments of every other organ of the body. If a patient la-

bored under fever, the liver was attacked as the seat of the malady. If he was afflicted with indigestion, the liver bore the blame. All obstructions were found in the circulation of the liver, and to unlock the hepatic secretions was the grand indication of cure. The pathology may claim all the veneration due to antiquity, for it goes back to the philosopher of Cos. In the annexed paragraph Hippocrates tells us what are tho "causes, signs, and symptoms of acute affections of the liver."

"Acute diseases originating in an afflux of bile to the liver, and tending to the head, proceed as follows: the liver tumefies, and is pressed towards the diaphragm; immediately headache ensues, especially at the temples; hearing and sight are diminished; and chills and fever come on. These symptoms are the first observed, and vary in intensity in different cases. As the disease progresses the pains increase; the eyes wander and become obscured; if the finger is presented to them it is not perceived, as may be concluded from their not winking at its approach; yet the patient appears to see something, for he picks the bedclothes as if catching bugs; and in proportion as the liver presses against the diaphragm, he becomes delirious, thinking he sees snakes and wild beasts around him, or soldiers fighting with him—talking at the same time in terms, as if this was truly the case. He strives to escape, and threatens those who oppose him. If raised up, his legs fail him, and he falls down; his feet are constantly cold; and when sleeping he starts, and has horrid dreams, as may be presumed from his waking suddenly in a fright; and when recovering his recollection he details his dreams, which correspond with his actions and talking during sleep. Such is his sufferings; at times he is speechless for twenty-four hours; his respiration rapid, and elevated; his reason returns at the ceasing of his flightiness, and he replies consistently to any question, and understands every thing that is said, but almost immediately relapsing into his preceding condition. Such affections are more common in long journeys across deserts, but are not confined to these."

Error, it has been said, walks in a cycle and reappears at intervals. Why Hippocrates referred this train of symptoms

to "an afflux of bile to the liver," it would not be easy to divine; but it should be remembered that he had not the scalpel with which to verify or disprove his hypotheses. With all the aids of modern science we have been enacting over again the same absurdities. Hippocrates laid down the principles of a sound philosophy but forgot them when he began to speculate concerning disease. Bacon established these principles, but nevertheless was a believer in charms and alchemy.

We turn next to the book on the *nature of man.* The philosophers of our sage's time held all matter to be composed of four elementary substances; namely: fire, air, earth, and water. Some contended that man was composed of one, and some of another, but Hippocrates insists that he is not made up of any single element. 'As to my own views,' he says, 'I affirm, that if man was constituted of only one species of matter, he could never feel pain; for how could pain be excited in him, if simple and uncompounded?' And he proceeds to assign strong reasons for believing, that he is not 'constituted of blood' alone, nor yet entirely of bile, or black bile, or pituita, but of all in part, and that each one prevails at particular seasons and under peculiar circumstances. 'If a man's throat is cut, the blood first flows out very warm and red, then mixed with pituita, and lastly with much bile.' He continues—

"Pituita abounds in man more largely in the winter, since it is the humor that has naturally the greatest analogy with that season; for of all the humors it is the coldest, of which we can easily satisfy ourselves. If you successively touch pituita, bile, and blood, the first will be found the coldest; it is more viscid, and combines with difficulty with atrabilis. It may be said, that everything that is viscid and yields with difficulty, is, by the force employed for such a purpose, rendered hotter, although this is no argument against the actual frigidity of pituita. That it does augment in winter is very clear, for we cough up and discharge it largely at that season; besides which, it is during this season that œdemas and other pituitous swellings chiefly make their ap-

pearance. In spring, although pituita is still abundant, yet the blood increases, the cold recedes, and showers occur. The blood therefore ought to increase, both from the augmented humidity and from the increasing temperature, which are the natural concomitants of this season; and a proof of my position is, that men are more liable to dysenteries and epistaxis, and are hotter and higher colored at those seasons. In the summer, the blood still abounds, but bile augments and extends into the autumn, the blood diminishing, since summer is contrary to its nature. The bile evinces its existence in the summer and in autumn, both by its spontaneous vomition, and by its copious discharge through the means of purgatives. It is equally shown, by the character of autumnal fevers, and by the color of the skin. Pituita in summer is greatly weakened, for that season being hot and dry, it is naturally opposed to its presence. The blood is smallest in production in the autumn, for this is the dryest season, and already is the system becoming colder. And now the atrabilis predominates, both in power and in quantity. As winter approaches, the atrabilis is refrigerated, and is less abundant; whilst pituita resumes its station and extent, in consequeuce of abundant rains, and the greater length of night. The human body has, therefore, constantly, all of the above humors; but they increase or diminish, each according to the season, as it may be conformable or otherwise to their nature respectively. As, throughout the year, there is always present both heat and cold, dryness and moisture, and as nothing in nature could for an instant subsist without their presence; if one alone was wanting, universal destruction would be the result; for the same law that subserved the creation of all things, is equally required for their preservation. It is the same with man; if one of those things that are essential to his constitution, were destroyed, he could not possibly exist. During the year, winter, spring, summer, and autumn, alternately predominate. In man, it is the pituita, or blood, or bile, or atrabilis, that successively hold the sway, as is evident from the operation of the same remedy on the same individual in the four different seasons of the year. In winter the evacuations are most abundant in pituita; in spring they are more diluted; bile predominates in them in summer, and atrabilis in autumn. Now, this being the case, the diseases which increase in winter, ought to end in summer, as those that arise in summer should be arrested by winter, unless checked by a certain determinate periodicity. This regularity in their termination is elsewhere discussed. In regard

to vernal diseases, we must await their final termination in the autumn; as those of autumn may be expected to disappear in spring. Should they extend beyond the season of their usual termination, they will be continued through the year. The physician, therefore, in attending the sick, ought to observe what is predominant in the system, as it regards the body, and also the season of the year."

Further on we have his pathology of calculous diseases, thus:—

"They who expectorate much pus without any fever, or whose urine deposits a large quantity of purulent sediment unaccompanied with pain; such as have bloody stools, as in dysentery, or long-continued diarrhœa, as young people of about thirty-five years of age; all such are in a diseased condition, dependent on the same cause. They must have labored hard and worked much in early life; and then, suddenly ceasing from their active exertions, eating largely and of a quality different from what they have been used to, corpulence ensued, and a great change of their system must have resulted, so that no correspondence exists between their present and their former state. When any disease attacks them, as now constituted, they at first resist it, but they are slowly undermined. The evil penetrates the vessels, and a sanious and unhealthy fluid is discharged wherever opportunity presents. Should it occur in the intestines, a diarrhœa is induced, of a character, as to the discharges, nearly similar to the humor existing in the body. Finding a ready passage, it is not long confined to the intestines.—Should the collection tend to the thorax, suppuration ensues, and if the purgation is impeded, the matter in the chest putrefies, and is discharged as pus. When thrown upon the bladder, the heat of the part warms and blanches it, a separation of its parts take place, the lighter parts float above, and the thicker purulent parts fall to the bottom. It is on this account that in children we find the stone or calculus forming in the bladder, to the heat of which is superadded that of the whole body. In man its formation is less common, in consequence of their greater coldness."

We make one more quotation from this book; it refers to that subject so fruitful in speculation—fever, concerning the

cause and pathology of which every writer has his own cherished theory. Let the Coan sage be heard among the rest. His doctrine is that—

"Fevers most commonly proceed from bile. There are four species, independently of such as have their origin in pain, and differ from them. These four species are denominated, synocha or continued, quotidian, tertian, and quartan. The first arises from a superabundance of unmixed bile, and its crisis is rapid; inasmuch as the body is not refreshed by intervals of calm, but on the contrary, is heated by an excessive warmth, it must necessarily soon come to an end. The quotidian also proceeds like the continued, from too much bile, though of less amount than in it: it ends in a shorter time than the two last, but continues longer than the first, because there is less bile, and also because during the intermission the body enjoys rest, which in the synocha it does not. The tertian is longer than the quotidian, being produced from a smaller amount of bile; and inasmuch as the intermission is longer shan in the quotidian, so is the disease itself of longer duration. It is the same with the quartan, which is longer than the tertian, owing to its having less bile, which causes the heat; consequently the period of repose is longer, during which the body is cooled. The quartan, however, is peculiar, in having an excess of atrabilis, which renders its cure difficult; for atrabilis is the most tenacious of all the humors of the body, and that which is with the greatest difficulty evacuated. Now the proof that quartan fever proceeds from or partakes of atrabilis, is, that it is chiefly produced in autumn, and attacks principally those between twenty-five and forty-five years, the period of life in which atrabilis most abounds, and autumn is the season of the year best adapted for its production. If a quartan attacks at any other seoson and time of life, you may rest assured that it will be of short duration, unless some accidental circumstance should be conjoined with it."

Hippocrates is quoted by nearly every one who undertakes to write on the relations of disease to climate and locality, and yet it is evident that the observations of this author were limited to a few places, and therefore cannot have a general application. The following may serve as an example:

"A town exposed to the hot winds that blow between the rising and setting sun of winter, viz: from the south, and which are common to it, whilst it is protected from those of the north; such town has abundance of water, slightly saline, and arising necessarily in elevated places; hence they are warm in summer, and cold in winter. If the summer is dry, diseases are of short duration; but if wet they are of longer continuance. From the most trifling causes, wounds degenerate into eating ulcers. If the winter is cold, the head abounds with moisture and pituita, which fall upon the bowels and often induce gastric affections. The constitution of the inhabitants is in general relaxed. They are neither great eaters nor hearty drinkers, for they who have weak heads can never make stout topers, since wine readily overpowers them. Now the following diseases are there the most common. Women are subject to catarrhs, and many are barren, rather from disease than from nature; abortions are frequent. Children are subject to convulsions and suffocations, that are often confounded with epilepsy. The men have dysenteries, diarrhœa, and *epial* fevers,* eruptions like flea-bites, chronic fevers of winter, and hemorrhoids. Few pleurisies are there seen, or peripneumonies, ardent fevers, and other acute diseases; such cannot be frequent where the bowels are relaxed. There are moist ophthalmias, that are neither dangerous nor of long duration, unless a change of season renders them epidemic. After fifty years of age, they are exposed to a kind of humor coming from the brain, which, if arrested, brings on palsy, or affections from the rays of the sun, or colds in the head. Such are the usual diseases in the places I have described, independent of epidemics caused by a change of season."

Again he says with about as much truth—

"As to places looking to the west, and which feel no winds from the east, but are exposed to those from the north and south, their position beyond all others is most favorable to disease. The waters are not clear, because the morning air, usually surcharged with moisture, prevents their limpidity, the sun dissipating it only after it has advanced in its course. During summer, the early breezes cause an abundant dew,

* A species of continual fever.

whilst during the remainder of the day, the heat scorches and oppresses the inhabitants. Hence their complexion is bad, and they have little vigor; they are liable to every disease I have mentioned, without an exception; their voice is hoarse, owing to the air, infected with the miasmata of disease, and from which it is not purified by northern winds. Those which blow, are charged with moisture, for the western winds place the atmosphere in a state resembling that of autumn; and a town thus situated, therefore, partakes of all the inconveniences which the evenings and mornings bring with them. Such are the remarks I have to make as to good or bad exposures, so far as relates to the winds."

He held, that on the character of the *water* of a country chiefly depended the health of its inhabitants.

"Cold and frozen in winter, and disturbed, sometimes by snow or ice, they become a sorce of pituita and catarrh to those who employ them; they enlarge and indurate the spleen; they heat and constipate the belly; they cause a shrinking of the shoulders, the neck, and the face; the flesh seems to disappear in order to augment the spleen; hence men become thin although great eaters and drinkers; their belly is with difficulty discharged either upwards or downwards, so that they require powerful cathartics both in winter and summer."

We suppose the reader is satisfied with the precepts of the father of medicine upon these subjects. There are other topics embraced in this volume, to which let us now turn for a moment. Passing over a great many minor ones, we come to the book on Epidemics.

In his work on epidemics Hippocrates appears to the greatest advantage. He is here the historian of nature, and his descriptions will continue true to the end of time. He no longer philosophizes concerning disease, but relates the symptoms and the seasons under which it appeared. It is divided into seven books, the first of which contains a statement of the seasons for three years, as occurring at Thasus, followed by the rise of an epidemic which persisted for two years. He thus opens his account of the weather—

"In Thasus in the autumn, about the equinox, and under the Pleiades, the rains were great, continual, and soft, as when the wind is southerly. The winter mild, with southerly winds, and very little northerly. With these were greater droughts than ordinary, so that the whole winter was, in effect, like the spring. The spring was also affected with southerly winds, but yet was cold, and a little wet. The summer was for the most part cloudy and dry. The Etesiæ blew but little, faintly, and irregularly.

"The whole year being thus affected with southerly winds, and greater droughts than ordinary, early in the spring (from the former year's being different, and affected with northerly winds) some few were attacked with burning fevers of a kind good sort, and a few other with hemorrhages, neither of which proved mortal. Swellings appeared behind the ears, in many on one side, in most on both, without a fever or any confinement, but in some with a little fever. In all they disappeared without either inconvenience or suppuration, contrary to the custom of such tumors from other causes. At this particular time they were naturally soft, large, diffused, without inflammation or pain, and went off universally without any visible signs. Children, young persons, adults, especially those who frequented the public places of exercise, were most subject to them. A few women were also affected. The greatest part had dry coughs, which were soon succeeded by hoarsenesses. Some again after a while had painful phlegmons upon the testicles, sometimes upon one, sometimes upon both. Some had fevers, others none; most of them trouble and fatigue enough: but with respect to the chirurgical part they did very well."

It is impossible to read the history of his cases without being struck with their resemblance, in many points, to the febrile diseases of our own times and country.

"Silenus, who lived upon the sea shore, near to Eualcides's was seized with a violent fever after labor, and drinking, and unseasonable exercise. It began with pain in the loins, a heaviness in the head, and a stiffness in the neck. His stools the first day were bilious, simple, frothy, deep-colored, and many. His urine black, with a black sediment. A thirst came on, with a dry tongue, and no sleep in the night. The second day, an acute fever. More stools, thinner, and frothy. Black urine. An uneasy night. Rambled a little.

The third, worse in all respects. A distension of both the flanks, reaching to the navel, but softish withal. His stools thin and blackish. The urine turbid and blackish. No sleep in the night. He talked much, laughed, sung, and could not contain himself. The fourth, no alteration. The fifth, his stools were simple, bilious, smooth, and greasy. His urine thin and transparent. His understanding recovered itself a little. The sixth, a little sweat about the head, the extreme parts cold and livid. Much tumbling and tossing. No evacuation by stool or urine. The fever acute. The seventh, loss of speech. No warmth in the extremities. No urine. The eighth, a cold sweat all over, with little, red, round eruptions, like pimples in the face, that remained without coming to suppuration. From a gentle stimulus of the belly a great discharge of thin, and as it were undigested fæces, with pain; and what came away by urine was acrid and painful. The extremities a little warmer. Light sleeps, with a comatose disorder. Loss of speech. Thin transparent urine. The ninth, no alteration. The tenth, drank nothing. A coma, with light sleeps. From the belly, the same discharge as before. A great deal of thick urine, that came away gushing, and afterwards let fall a white sediment, like ground barley; the extremities cold again. The eleventh, he died."

The following is a case of fever supervening upon the puerperal state:

"In Thasus, Philinus's wife was seized with a fever and shivering, the fourteenth day after her delivery of a daughter, her affairs going on very well, without any reason for complaint in other respects. The upper part of stomach, the right hypochondre, and her private parts grew painful from the first. Her cleansing stopped. However, by help of a pessary she grew easier; but the pain in her head, neck, and loins remained. She could get no sleep; was cold in her extremities; and a thirst succeeded. Her belly was in a manner burnt up, and discharged very little. Her urine was thin, and without color at first. The sixth, she was very delirious at night, and then came to herself again. The seventh, was thirsty; and her stools were bilious and deep-colored. The eighth, a shivering came on, with an acute fever, and many convulsions followed, with pain. She also talked

much out of the way; got up to receive a suppository; had a great discharge downwards of bilious matter; but no sleep. The ninth, was convulsed. The tenth, came a little to herself. The eleventh, slept, remembered every thing, but in a little time grew lightheaded. After the convulsions made a great deal of water in a little while (the servants, or those about her seldom reminding her), of a thick and white kind, like what appears upon shaking water that has subsided after standing a long time, but no sediment; in color and consistence like that which is made by a beast of burden, so far as I saw. About the fourteenth she trembled all over, talked much, and came a little to herself; but soon became lightheaded again. About the seventeenth, lost her speech; and the twentieth, died."

In the case subjoined the result, after a very protracted illness, was favorable, although the subject, like the preceding, had to contend with all the disadvantages of childbirth.

"Epicrates's wife, who lived by Archigetes's, just before her labor, was taken with a violent shivering, and could not grow warm again, as I was informed. The next day, she was much the same. The third, she was delivered of a daughter, and every thing went on well. The second day after the birth an acute fever seized her, with pains in the pit of her stomach and private parts, which were mitigated by a pessary; but a pain in the head, neck, and loins continued, without any sleep. Her stools were small, bilious, thin, and simple. Her urine thin and blackish. The sixth day after she had been taken, at night she grew delirious. The seventh, was worse in all respects; watchful; delirious; thirsty; and had bilious, deep-colored stools. The eighth, shivered, and slept much. The ninth, no alteration. The tenth, a pain in her legs and the pit of her stomach again, with a heaviness in her head, but without a delirium. She slept more, but had no stool. The eleventh, the urine was better colored, and the sediment large. She felt herself lighter. The fourteenth, shivered again, and was very feverish. The fifteenth, vomited bilious yellow matter, pretty often; sweated, and missed her fever; but at night it returned violently. Her water was thick, and with a white sediment. The sixteenth, worse again, rested badly, got no sleep, and was lightheaded. The eighteenth, was thirsty, and the tongue

burnt up. No sleep; much lightheadedness; pain in the legs. About the twentieth, betimes in the morning, shivered a little, and was comatose or stupified; slept quietly; vomited a little bilious black matter; and grew deaf at night. About the twenty-first, a pleuritic pain came on quite through the left side, with a gentle cough. The urine was thick, turbid, reddish, and did not subside after standing. In other respects she was easier, but not without her fever. Her throat was inflamed and painful immediately from the first; the uvula was contracted; and the rheum remained sharp, biting, and salt continually. About the twenty-seventh, the fever left her; the urine broke, but the side was painful. About the thirty-first, the fever came on again; her stools were bilious and stimulating. The fortieth, she vomited a little bile, and was entirely freed from her fever the eightieth."

The next history we shall quote is short but graphic.

"Erasinus, who lived by the Torrent of Bootes, grew very feverish after supper, and had a very bad night. The first day he was easy, but in pain in the night. The second, worse in all respects, and at night lightheaded. The third, uneasy, and very delirious. The fourth, exceeding ill, and had no sleep at night, but dreamed and talked, and was afterwards remarkably worse, frightened, and impatient. The fifth, betimes in the morning, was composed and came perfectly to himself, but before noon was so raving mad, that he could not contain himself. His extreme parts were cold, and somewhat livid; his urine stopped; and about sunset he died."

We are sure that these cases will be read with interest, and it is not from any fear of wearying the reader that we forbear to quote others, but because we have already devoted to the work nearly all the space we can at present devote to it, and some account remains to be given of the "Writings of Galen."

Galen has been styled, somewhat invidiously, perhaps, *fimbriam Hippocratis*, and as an "appendage" to this eminent man—"the first that ever wrote on physic to any purpose," it is proper that his lucubrations should follow as an

appendix to the volume, which conveys to the English reader the fullest account yet given of the works of the Father of Medicine. But, no "fringe of Hippocrates" seems the Roman physician and author in the eyes of the American editor of his works. Far otherwise. His writings, in Dr. Coxe's judgment, constitute "the proudest work of which the science of medicine can boast, either in ancient or modern times, if estimated by their individual merits alone," No; "Galen was no slavish and ignoble plagiarist." On the contrary, continues the editor—

"In thought, as in action, he appears to have been free: and those thoughts are evincive of superior genius, improved by all the arts and science of his own, and of preceding ages. In every page, his character stands forth in bold relief. His works are a library of past events, an encyclopedia of facts from every branch of medical literature; and forestalling many of the most extraordinary events of our own times; whilst even in experiments and in operations, *considered as novelties* in the present day, he has preceded them."

These writings are very voluminous, amounting to "nearly seven hundred books or treatises," and covering the whole field of medical science. Dr. Coxe gives a short account of many of these, but we have not the pleasure of hearing Galen speak for himself, as Hippocrates was permitted to do. It is rather a table of the contents, than a translation of his works. It gives one a pretty good idea of the prominent subjects discussed by this writer, and of the leading doctrines inculcated in his works, but it is not so much the works of Galen, as a notice of them. The following extract is a specimen, in which the editor, besides informing us what the book contains, claims for Galen the honor which has been so long awarded to Harvey.

"The intent of this book seems to be, to show that the use of the pulse is that of preserving innate heat, and of conveying the animal spirits to every part. Now, although the language employed may give a different aspect to our present views

on this suject, and that of the circulation, yet I apprehend the doctrine of a circulation is adequately sustained. The influence of ventilating the blood and of cooling it, as has been previously noticed, is here adverted to, and the *abstraction* of something noxious from it seems clearly expressed. In fact, except in name, we can almost exclaim, Mutato nomine, de te narratur; for this abstraction of noxious matter, is the present decarbonization of the vital fluid.

"Physicians and philosophers alike concluded, p. 867, that respiration and the pulse both tended to one end, or subserved the same intention. Of this Galen affords proof as well as that the heat of each part is maintained, by the pulse. He mentions the fact, that on opening the ventricles of the heart of an animal, especially the left one, if the finger is immediately introduced, the heat is there felt to be greater, and continues longer than in other parts. He advances several reasons, and some experiments, to prove that the heat flowed from the heart—such as tying the vessels; and he thinks both arteries and veins are engaged in this (p.870); and from all he says, he deduces the connexion between the pulse and respiration, and speaks without ambiguity of the union of the arteries and veins. If in this book, the *candid* inquirer cannot find sufficient proof of a circulation being well known to Galen, even if it be not exactly explained and elucidated, as in the present day; and that, moreover, scarcely one fact or proof is adduced by Harvey that is not equally asserted by Galen; I must confess that I have greately misunderstood the tenor and intent of all his pages, which go to prove that his *actions* depended upon such a knowledge and belief; as well as from his necessary conviction of the absolute necessity of such a function to every part of the system, (see p. 872,) in which is to be found, that man is included in the question there considered, and by which he is led to the following conclusion, "et cum semper vacuatas cum arteriis venas deprehendissemus, *veram esse sententiam de communibus* arteriarum et venarum *osculis*, et communi de una in alteram *per ea* transitu, *nobis persuasimus*," &c. This junction of the arteries and the veins, seems to have been a prevailing doctrine, equally, as that the arteries derive their power from the heart, and communicate with every part of the body. This communication between the arteries and the veins, is not so luminously explained by Harvey; for it was never understood by him, and he died in uncertainty, whether that communication was *direct*, by anastomosis, (as sustained by Galen,

and as proved by microscopic observations,) or *indirect*, by an intermediate effusion from the one, and an absorption by the other; yet Harvey is regarded as the *full* discoverer of the circulation, and all his predecessors are alike consigned to oblivion, nay, in many cases, to contempt and obloquy! A *complete translation* of the works of Galen would effectually prove the frauds that have been perpetrated, to support the honor of the British nation, which would be tarnished by the abstraction of those laurels that have been so unjustly awarded to a man considered as the glory of their country!"

Galen was also a discoverer in phrenology, according to Dr. Coxe, and attempted to "locate the mind." He was a believer in Aristotle's four elements, and supposed that disease was to be attributed to a deficiency or excess of some one of these elements in the system. His knowledge of anatomy enabled him to refute the opinion maintained by some of the ancients, that fluids in drinking passed into the lungs. He treated at great length of hygiene, and we make a quotation which relates to diet. It is from the third book, and is as follows:

"Animal food is considered in this book, and various articles derived from them, as eggs, milk, cheese, butter, blood, honey, &c. One chapter is devoted to wine. The animals mentioned are the hog, the ox, &c. The flesh of hogs so much *resembles that of man*, that, independently of dogs eating the last without suspicion, it was *sometimes served up by dishonest tavern-keepers*. Castrated animals most appropriate. General rules are delivered; the female ass and the mare were employed as food. We are then presented with the particular parts employed, among which are enumerated the udder, the thymus gland, the testes, which are considered inferior to the teats or udders, especially when these last contain milk,—the testes of the bull, goat, and ram, seem, however, to have been too much even for a Roman stomach; —the brain, the liver, spleen, lungs, &c., stomach, *uterus*, and intestines. We have a catalogue of animals, &c., derived from the fields, woods, waters, air, &c. Milk and its various preparations; asses' milk. A great variety of fish is mentioned; shell-fish, cartilaginous, scaly, and others. Salt provisions. We have, in short, in these books, a Materia

Alimentaria; consisting chiefly, as may be presumed, of the facts of the day; and which, devoid of the remarks of Galen, are not very interesting; yet, as affording a table of contents for the feasts of the Romans, they are not undeserving of attention."

And here we must stop. A very long article might be written on the subjects contained in this volume, and a very interesting article would naturally be looked for on topics so suggestive. We have made ours long enough, but we do not flatter ourselves that we have attained the other desirable point, and can only hope that the extracts will reward the reader for its perusal. We are free to confess that our slight examination of the writings of these medical fathers has not inspired us with any desire to go deeper into them. The fault may be in us, but we have not been so fortunate as to find in them those treasures of knowledge for which we should be willing to dig through the mass of rubbish under which they lie buried. Many interesting observations, doubtless, they contain—much that every medical man ought to know, but these constitute a very small proportion of the works; they are scattering grains of wheat mingled with a huge heap of chaff. Dr. Coxe has brought the profession under obligations to him by the task he has executed. In this epitome of the Writings of Hippocrates and Galen, the readers may obtain a glimpse of what the ancients discovered in medicine. Few, we presume, would incline to wade through their ponderous folios, even if presented to them in their own vernacular tongue. It may be that the world is not now producing such giants as these authors were; but pigmies standing upon their shoulders may enjoy a wider field of vision than they could command. We hope this book will be successful; by which we mean, extensively read, and we should suppose that the number of physicians is small who would not be pleased with an opportunity of learning how Galen and Hippocrates treated fever, and speculated concerning health and disease.

ART. VI.—*Chemistry of the Four Seasons: Spring, Summer, Autumn, Winter; an Essay principally concerning natural phenomena admitting of interpretation by Chemical Science, and illustrating passages of Scripture.* By THOMAS GRIFFITHS, Professor of Chemistry in the Medical College of St. Bartholomew's Hospital; Author of "Recreations in Chemistry," and "Chemistry of the Four Elements." Philadelphia: Lea & Blanchard. 1846. 12mo. pp. 451.

They greatly err who suppose that Chemistry is confined to the Laboratory. It is no technical science, limited to processes of art—to the preparation of medicines, the extraction of metals, to bleaching, dying, the manufacture of glass, the analysis and amelioration of soils—but a science wide in its scope and nature. It takes in all that passes in the four seasons, in air, earth, and water. In spring time the seeds are sown, and chemical changes, under the transforming influence of caloric, oxygen, and water, commence. The starch which they contain is converted into sugar and mucilage, their oil into carbonic acid; as they grow, carbonic acid again takes the shape of oil and sugar, and as their seeds ripen, the sugar returns to starch again. In their fruits changes occur by which bitterness and astringency give place to the saccharine principle. The *acer saccharinum* is tapped in the spring and yields a sap from which sugar is extracted. After a time the saccharine matter declines and sugar can no longer be crystalized from the juice of the tree; but molasses, or uncrystallizable sugar, may still be obtained. Finally the sweet principle is lost, and the tree exudes a sap abounding in mucilage. After a time this is transformed into leaves and woody fibre, and the tree is clothed in green.

Has the reader ever visited a great cave—the Mammoth, for example? If so, he has seen not only a vast labyrinth, but an extended laboratory, itself worked out by chemical action. There, in one part, he remarked water wearing away the solid rock, and in another depositing the limestone in stalactites of every strange, fantastic shape. At another point he found sulphate of lime, as snowy gypsum, covering

the ceiling with brilliant incrustations. Again, he saw sulphate of soda deposited upon the walls and floor; and close by found the crystals of sulphate of magnesia. From one fountain he drank water impregnated with sulphate of magneisum, and from another water containing sulphate of iron. By chemical agency the cave itself has been scooped out of the compact limestone rock, and this silent power is ceaselessly at work in its dark chambers, effecting new combinations, dissolving stone, creating new salts, crystallizing what was amorphous, rendering active what was inert.

These are examples. The book before us is full of such. It illustrates on every page the truth of our remark, that chemistry is no narrow science, confined to the laboratory and workshop. It is a book which will be read with pleasure, and is especially suited to the general reader. It does not profess to be competent to teach the adept in chemical science.

The following extract will convey an impression as to the subjects and style of this work, and will lead some, we should hope, to avail themselves of this pleasant guide to the study of the chemistry of nature.

"Upon tracing lignin as a chief constituent of the bark of trees, the chemist discovers another example of the power and goodness of the Creator.

"Lignin is an exceedingly bad conductor, and therefore only very slowly permeable by heat or cold; thus the covering of bark prevents the sap of trees from disturbance in its circulation by sudden changes in the temperature of the air, and secures it the degree most congenial to the performance of its vital functions.

"If the bark were not thus created of bad conducting material, trees and plants would suffer from the heat of summer, and the cold of winter; but more especially from the latter, as it would cause their death by the freezing of the sap, a phenomenon sometimes observed during a protracted and rigorous winter; but it can be prevented in many instances by enveloping the trunks of trees with a thicker coating of woody fibre, in the form of matting, or bands of hay and straw.

"When tropical plants are transported to cold climates, we artificially clothe them with similar materials to prevent them from suffering by the sudden transition, the same as we should endeavor to protect ourselves, by putting on an extra garment upon passing from hot to cold weather.

"By keeping a thermometer plunged in a hole bored in a sound tree during hot weather, it constantly indicated a temperature several degrees below that of the atmosphere; and during cold weather a temperature several degrees above that of the atmosphere: and another wonderful fact was also discovered, namely, that sap drawn from the tree would freeze at the same temperature as pure water, whilst the sap circulating in the tree, under vital agency, would not freeze until reduced seventeen degrees below the freezing point of water. This point or degree will claim our attention when considering the leading chemical phenomena of winter.

"It is a generally received and probably correct statement, that heat is evolved during germination,—heat quite independent of that which is popularly known to be evolved during putrefactive fermentation, as that of damp hay, damp corn, or organic manures;—the temperature of plants is very frequently materially above that of the atmosphere, 'and all have undoubtedly a power dependent upon vitality of maintaining to a great extent an equable temperature.'

"In summer and autumn the dense foliage of trees, by its extraordinary non-conducting power, forms the cool shade which at noon-day is so eagerly sought by man and animals from the piercing rays of the sun, and more particularly in oriental climates.

"The chemist discovers that the leaves of some very succulent plants will absorb oxygen in the dark, and again evolve it in the light; some kinds of the 'cactus,' for example, will absorb more than their own bulk of oxygen, and retain it so tenaciously, that they will not yield it by the action of heat, nor in the vacuum of an air-pump, but immediately do so upon exposure to the imponderable agency of solar light.

"No satisfactory evidence can be adduced regarding the physical cause of the circulation of the sap in plants, nor even of the general direction of its course; but the most accurate researches which have been made upon this recondite subject, render it probable that the chief ascent of the sap from the roots to the leaves, is in the vascular system of the 'alburnum,' and outer layers of wood; and that having performed its functions in the leaves, as shown at page 84, it

chiefly descends by the 'liber,' or inner layer of bark, giving rise to the formation of new wood, and to the separation of gum, resin, and other proximate principles.

"As regards the influence of flowers upon the atmosphere, it appears that they deteriorate it to some extent, and particularly during the night; but it is highly probable that much of the oppression which persons frequently experience after remaining in a conservatory, or room filled with flowers, is in the first place referable to the confined atmosphere being loaded with carbonic acid arising from the tan and soil; and in the next from the concentrated aroma of the flowers, and not from any material deterioration of air by their agency.

"Some persons are more affected by the aroma of flowers than others; thus a single hyacinth in a large room certainly cannot deteriorate the air in any appreciable degree, and yet its odor may be extremely oppressive, producing even headache and faintness.

"Few persons can bear an atmosphere loaded with aroma, whilst a little is occasionally refreshing; the same as a pocket-handkerchief saturated with otto of rose, soon palls upon the senses, though the first diffusion of its odor might have been grateful."

ART. VII.—*An Anatomical Description of the Diseases of the Organs of Circulation and Respiration.* By CHARLES EWALD HASSE, M.D., Professor of Pathology and Clinical Medicine at the University of Zurich, etc., etc. Translated and Edited by W. E. SWAINE, M.D., Physician Extraordinary to H. R. H. the Duchess of Kent. Philadelphia: Lea & Blanchard. 1846. 8vo. pp. 377.

From the preface by the editor we make two extracts, which will afford all the information concerning this much lauded work that we have, at present, space or leisure to give. He says—

"The following pages will not be found to contain a mere descriptive catalogue of curiosities in morbid anatomy, nor records of extreme or severe cases only, but a thorough anatomical and physiological account of the origin of disease, of

its progress through its several phases, and of its ultimate issue in death, in abiding organic mischief, or in recovery. The practical utility of this plan, apart from the truthfulness and ability with which it is carried out, few will be disposed to contest; for, to use the words of a highly distinguished physician of the present day,—'so far as morbid anatomy contemplates the last or latest results of disease that are fixed and irremediable, and unalterable, its value is very small. But so far as morbid anatomy contemplates *disease in progress*, and scrutinizes and explains its organic processes, its value is very great."'

Dr. Hasse was educated at Paris and Vienna.

"On his return to his own university, Leipsic, he was appointed by my revered clinical instructor, Professor Clarus, to be assistant clinical teacher, and also pathological prosector at the principal hospital. With such means at his disposal, my friend forthwith commenced forming a pathological collection, which, under his auspices, has grown into a most interesting and valuable museum; and the present work is but a collateral result of the unwearied *practical industry* which he displayed in that undertaking, combined with a thorough knowledge of all that other observers had before achieved in the same field of science.

"Hence it will at once be seen that this treatise differs essentially from what is commonly called a compilation. The high estimation in which it is held in Germany, is clearly shown by the fact that, since its publication, Professor Hasse has had the offer of the chair of clinical medicine from no fewer than five universities. He has accepted that vacated by Professor Schönlein, at Zurich, and at present holds the additional rank of Rector of that Germano-Swiss University."

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

On the Use of Muriate of Barytes in the Treatment of Scrofulous Affections. By A. J. Walshe, M.D., F.R.C.S.I., &c. Dr. Adair Crawford was the first to call the attention of the profession to the use of this remedial agent in the treatment of scrofulous affections. There is a notice of it by him in the Medical Communications for the year 1789. He remarked that it combined the action of an evacuant, a deobstruent, and a tonic; that its incautious use was likely to be attended with a host of unpleasant and even dangerous symptoms, as loss of appetite, thirst, nausea, constipation, deafness, loss of sight, and paralysis of the voluntary muscles; to obviate this, he advises the use of a saturated solution, gradually increased from four to ten drops, as a dose.

He dissolved half a drachm in an ounce of distilled water, and gave from ten to fifty drops, according to age—that is, roughly from half a grain to three grains of the solid muriate. When he administered it to infants, he added a syrup to diminish its irritant effects; when the stomach was affected with spasm, he combined it with some aromatic or antispasmodic; he mentions that its activity in certain diseases of the skin is much increased by the addition of emetic wine, Plummer's pill and cicuta. In very delicate subjects, he exhibited it according to the following formula:—Muriate of barytes, muriate of iron, of each half a drachm. Water distilled, syrup of orange peel, of each an ounce. The dose of which is from twenty to thirty drops every three hours. Dr. Crawford has also recommended its conjunction with iron; indeeed, the solution of barytes, which he used in his first experiments, contained a minute proportion of iron.

The French physicians usually recommend a drachm of the salt to be dissolved in two pints of distilled water, of this a teaspoonful, that is about half a grain of the barytes is taken in a teacupful of infusion of hops, or some other bitter, every morning, fasting; this dose is gradually increased, its effect being watched with great care. The form in which I have usually exhibited it varies from that heretofore followed in being in pill. I at first exhibited it in this manner to avoid as much as possible the too speedy decomposition of the medicine in the stomach, and at the same time to prevent its being so rapidly absorbed as it would be in a fluid state. I have always commenced with very small quantities, one-twelfth of a grain three times a day, gradually increasing the frequency of the doses, rather than the quantity in each. I think it desirable that it should be taken after meals, so as to defend the stomach from its rapid action. With these precautions, though I must confess it was with some anxiety that I awaited its effects the first time, I have never experienced any inconvenience in its exhibition.

In that form of ophthalmia attended with great intolerance of light, so characteristic of the scrofulous form of this disease, Dr. Walshe has observed it very useful. He says, however,

I do not wish it to be understood as my opinion that muriate of barytes should supersede iodine in the treatment of scrofulous diseases, in which we frequently derive such eminent services from the latter, but I think I am warranted in inferring, after a careful examination of these cases, that there are some cases of scrofulous disease, in which iodine is useless, or may be worse than useless, and when we may derive considerable service from the muriate of barytes; and further, that there are some cases in which we experience beneficial results from iodine up to a certain point, beyond which, if it be persisted in, its beneficial action ceases, and it proves noxious. In these cases the treatment may be advantageously taken up with the barytes, and vice versa.—*Dublin Med. Press.—Braithwaite.*

Topical Employment of Cod-Liver Oil, in the Treatment of certain Strumous Affections.—By Dr. Brefeld. In cases of tumefaction of the lymphatic glands of the neck, axilla, and groin, this physician prescribes, with success, the employment of cod-liver oil in frictions to the inflamed and

painful parts. He says that he has observed that this topical medication becomes useless, when it is used with tumors which are the consequence of variola, scarlatina, or rubeola. In the case of scrofulous ulcers, consecutive to inflammation and suppuration of the lymphatic ganglions, he employs the following ointment:—Oil of cod-livers, 15 parts. Liquor of subacet. of lead, 8 parts. Yolk of egg, 12 parts. Make into a homogenous ointment.

We can, in the preparation of this ointment, replace the yolk of egg by an equal quantity of lard. This ointment may be applied to the ulcers, lightly, by means of a feather. In scrofulous ophthalmia, M. Brefeld smears, twice or three times a day, the margins of the eyelids, with pure cod-liver oil, which he applies by means of a camel's hair brush, or a feather. In scrofulous peritonitis, this practitioner rubs the cod-liver oil on the surface of the abdomen; and when the latter is painful, he recommends to warm the oil.—*Jour. de Phar.—Dub. Hos. Gaz.—Ibid.*

Bromine and its Preparations.—The very high price which iodine has attained within the last twelve months, has rendered it very desirable that a substitute should, if possible be obtained for this medicine, which is at present so extensively employed. Bromine and its preparations have been shown by the experiments of Majendie, Barthez, Brame, and others, to possess therapeutical properties as nearly as possible identical with those of iodine and the iodides. The scarcity, however, of bromine, and, consequently, its commercial value, has hitherto prevented its general employment as a remedial agent; but the recent discovery of it in large quantities in America has recalled attention to this substance as a substitute for iodine. Mr. O'Reilly, of this city, while lately in the neighborhood of New York, having had his attention called to the peculiar properties of the mother waters of many brine springs in the United States—the result of their evaporation for procuring common salt, found by experiment that they contained bromine in large quantities—nine drachms in every gallon. Having procured a large amount of bromine from this source, he has brought a hundred pounds weight of it home, and states that he can obtain an almost unlimited supply of it; the price at which it is now sold in

Dublin is eighteen pence an ounce, while the present price of iodine is three shillings and sixpence an ounce. These circumstances have induced us to include in our retrospect a short account of the doses and mode of administration of bromine and its preparations.

The forms in which it has been used on the Continent are, in the simple state much diluted, and combined in the form of bromides with potassium, barium, calcium, iron, and mercury. These preparations are made by processes exactly similar to those used for procuring the corresponding combinations of iodine. As a substitute for the tincture of iodine, M. Pourche has employed the following solution: bromine, one part; distilled water, forty parts; dose, from five to six drops in some aqueous vehicle, three or four times daily. For external use he employs a solution four times as strong as this. The bromide of potassium is very soluble in water, sparingly soluble in alcohol: the dose of it is from four to eight grains three times a day: to prepare an ointment from it, four parts are rubbed up with thirty-parts of lard; and if a stronger ointment, or one resembling the compound iodine ointment, be wished for, six drops of bromide are added to this. The bromide of barium is also soluble in water; the dose of it is from one to five grains, three times a day; the ointment is prepared by combining it in the proportion of one part to ten of lard. The bromide of calcium is prescribed in the form of pill made with the conserve of roses; the dose of it is from three to ten grains. The bromide of iron is a brick-red deliquescent salt, very soluble in water; it is not so easily decomposed as the iodide of iron, and is given usually in the form of pill made with conserve of roses and gum arabic; the dose of it is from one to three grains: it has been employed externally, also in the form of ointment, prepared with one part of the bromide to fifteen of lard. Two bromides of mercury have been used; the first a sub-bromide, is a white insoluble powder: the dose of it is one to two grains daily; the second, a bromide, is fusible and volatile, and soluble both in water and alcohol: its dose is one-sixteenth of a grain, gradually increased to one-fourth of a grain, daily.

All the preparations of bromine may be readily known from those of iodine by their not disengaging violet-colored vapors when concentrated sulphuric acid is poured on them. In France, bromide of potassium has been of late fraudulently sold for iodide of potassium, in consequence of the high

price of the latter; a sophistication of but little importance, if, as we are inclined to believe, the medicinal action of both be identical.—*Dublin Quarterly Journal of Med. Science.—Ibid.*

Stramonium Cigars.—Stramonium has for a long time been recommended as a remedy for asthma and other disorders of the chest, and it is frequently used in a pipe with a portion of tobacco. Mr. Butler, of Covent Garden, has recently introduced cigars composed of the leaves of this plant, and we have been informed by several patients who have tried them, that the plan is more convenient than the one formerly adopted, and that the remedy is quite as efficacious, if not more so. A short time ago, a caution was issued to chemists, to the effect that these cigars could not legally be sold without a cigar license, and on this account we have deferred our notice of them. But we are now informed that this objection is overruled, it being decided that the stramonium cigars may be sold without a license as a remedy, as no tobacco enters into their composition.

In France, not only stramonium but several other medicinal plants are used in the form of cigars; and we have been informed that advantage has been found to result from the practice in some cases.—*Pharm. Journal.—Dublin Medical Press.—Ibid.*

Treatment of Warts.—The hydrochlorate of ammonia dissolved in water, and the hydrochlorate of lime are the most certain means of destroying them; the process, however, in both instances is very slow, and demands perseverance, for if discontinued before the proper time, no advantage is derived.—*Eisenberg's Advice on the Hand.—Dublin Medical Press.—Ibid.*

Opium in Hemorrhage. By Dr. Griffin.—Of all the wonderful influences exerted by opium, that by which it sustains the powers of life when sinking from hemorrhage, and arrests the flow of blood, is the most extraordinary. When

after severe uterine hemorrhage the countenance is sunk, the eye hollow and glassy, the lips blanched, the skin cold, and the whole person corpse-like, when the pulse is almost gone at the wrist, when the beat even of the heart is scarcely perceptible, and stimulants, even brandy or rectified spirits, are either vomited or uninfluential, there remains yet one remedy capable of restoring the patient to life, and that is opium. I believe its power of saving life in these circumstances depends principally on its specific property of producing congestion in the brain. That amount of congestion by which it occasions apoplexy when given in large doses to persons in health, seems only sufficient to sustain the natural and necessary tension of the cerebral vessels in those who are dying of hemorrhage. Persons die in cases of hemorrhage, not so much from mere debility of the heart's action, as from the loss of nervous power in the brain consequent to it, and hence a fainting from which they are never awakened. The opium in such cases not only stimulates the heart's action, but restores a sufficient degree of tension in the vessels of the brain to prevent faintness, and by the judicious repetition of the remedy, life is preserved on the very borders of death. There are no instances in which opium can be given so freely or so fearlessly as in these. When the danger is imminent, five grains may be given at the first dose, and two or three every hour or half hour afterwards, until the pulse becomes distinct, the breathing easier, and tossing and flinging about in the bed is allayed. It is hardly necessary to observe, that in such cases, in conjunction with the use of opium, the administration of warm wine and brandy (however inefficient alone), and the application of heat to the extremities, are highly useful, if not absolutely essential.—*British and Foreign Med. Rev.—Ibid.*

On the Composition of Air at different heights in close Apartments.—Lassaigne has drawn the following conclusions from a series of experiments on this subject:

1. In rooms where the air is confined, and has been respired for some time without renewal, the carbonic acid expired is not found exclusively, as some have asserted, in the lower strata.

2. In accordance with the laws of physics, confirmed by experiment, the carbonic acid is nearly equally diffused throughout the whole volume of confined air which has been respired by a certain number of persons.

3. The slight differences observed would lead to the in-

ference, that the proportion of carbonic acid was, under these circumstances, greater in the upper strata, were it not that the differences may depend upon errors in the quantitative estimation of the gaseous components of the air.

4. These facts show the erroneous principles upon which some modern theories of ventilation are based: for it is clear that the *whole* mass of air which has been respired by many persons requires renewal, so that the vitiated air may be entirely expelled.

5. The uneasiness experienced from respiring the heated air in the upper part of crowded and badly ventilated theatres, is due rather to its rarefaction than to its chemical composition; for the latter is almost identical in the upper and lower strata. The acts of respiration are more (?) full and frequent when rarified air is breathed; hence certain physiological effects are induced which are not observed in the respiration of air at the common temperature.—*Lon. Med. Gaz.*, from *Comptes Rendus.—Am. Jour. Med. Sci.*

On the Blood in bodies killed by Strangling.—Ciccone made the following communication to the scientific assocoation at Naples. After he had observed that in persons destroyed by asphyxia, the quantity of fibrine in the blood is diminished, and that the circulation continues for some time after respiration has become suspended, he farther found that in cases where the respiration, as also the return of the blood in the jugular veins to the heart, had become prevented by a ligature placed round the neck, whilst the greater circulation, and hence also the metamorphosis of arterial into venous blood, which, although now imperfect, takes place in the capillary vessels, the blood accumulating in the jugular veins, that portion of this fluid which is above the ligature contains the normal quantity of fibrine, while in that which is below the ligature the quantity is diminished. This observation is thus far of value, that if the body has not been killed by strangling, and the ligature has not been applied until after death, these changes in the blood will not be found. At the same meeting Cappa detailed his experiments; he found that in ten strangled fowls, death was in six instances caused by asphyxia and apoplexy combined; twice by asphyxia alone; and twice by apoplexy alone. In the last cases, on the microscopic examination of the blood above the ligature, its corpuscles were found distended, and

generally without a central nucleus; some of them were elongated, and others again in conglomerated masses, while the blood corpuscles in all the other parts of the body presented their natural appearance. Where death had been the result of asphyxia alone, all these alterations in the corpuscles were, on the contrary, observed only in the parts of the body below the ligature; and lastly, where death had been caused by a complication of apoplexy and asphyxia, the alterations in the blood corpuscles could be seen in all parts of the body without distinction. The above test could therefore, in his opinion, be applicable only in the two first circumstances, viz: where death was from apoplexy or asphyxia alone, and not where it was caused by these two conjoined, which occurrence was by far the most frequent. Where death was the result of apoplexy, he had certainly seen the jugular veins thicker and more full of fibrin, and he had seen exactly the reverse where asphyxia had been the cause; but where death was accompanied with symptoms of apoplexy and asphyxia conjoined, this test was of no avail.—*Monthly Jour. Med. Science*, from *Annali Univ. de Med.—Ibid.*

Sulphate of Iron for Excessive Perspiration, prescribed in the following manner, is highly recommended by Professor Lippich:—

℞ Gray cinchona, 30 grammes, or nearly ℥j.
Water 300 " ℥x.

Boil for eight or ten minutes, filter and add

Sulphate of iron, 40 centigrammes, or about gr.vi.
Simple syrup, 30 grammes " ℥j.

Mix, to form a drink, of which a half coffeecupful is to be taken every two hours.—*Jour. de Chimie Médicale.—Ibid.*

Upas Tree.—The Dyak Darrat or Land Dyaks, seems to differ in no essetial particular of language or costumes, from the men of the sea, except in as far as depends on their inland position. The only remarkable difference of usage noticed by Mr. Brooke is, that the latter use and the former do not, the weapon called the *sumpitan*, or blowpipe, for shooting poisoned arrows. The wounds inflicted by these are curable, says Mr. Brooke, by antidotes known to the natives; nor are they re-

garded, apparently, with much terror. And we suspect the whole romantic history of the poisonous trees of the Indian isles must be banished with so many other marvels, to the province of legends, since a friend of Mr. Davidson, in Java, to prove their absurdity, climbed up an upas tree and passed two hours in its branches, where he took his lunch and smoked a cigar.—*Edinburgh Rev.—Ibid.*

Statistics of the Medical Schools of the United States for the Session 1845–'46.—

	Students.	Graduates.
University of Pennsylvania - - -	462	168
Transylvania University - - -	171	58
Medical Institution of Geneva College -	179	39
Medical Department Willoughby University	164	30
Albany Medical College - - -	115	42
Louisville Medical Institute - - -	345	73
Western Reserve College, (Cleveland) -	161	52
Jefferson Medical College - - -	469	170
Rush Medical College, (Chicago) - -	50	9
Harvard University, Boston, - -	180	31
College of Physicians and Surgeons, N.Y.	219	38
Med. Dep. University of the city of N.Y.	425	131
Ohio Medical College - - - -	192	46
University of Maryland - - -	147	40
Medical College of Georgia - - -	112	30
Med. Dep. of Hampden Sidney College	74	17
Med. Dep. University of Missouri - -	92	29
Med. Dep. Illinois College - - -		13
St. Louis University, - - - -	53	11
Med. College of the State of S. Carolina	210	74
University of the City of N.Y. - -	407	130
Indiana Medical College, (Laporte) -	71	17
Berkshire Medical Institution - - -	142	35
Medical College of Louisiana - - -	103	19
Pennsylvania Medical College - -	70	38
Medical School of Maine, - - -	73	19
Vermont Medical College, (Woodstock)		24
Yale College - - - - - -	53	19
Castleton Medical College - - -	140	36

American Jour. Med. Sci.

Address to the Medical Profession, in relation to the objects of the National Medical Association, by the Committee appointed for that purpose.

Abstract from the Minutes of the Proceedings of the National Medical Convention, held in the City of New York, in the month of May, 1846—

Resolved, That a committee of seven be appointed to prepare and issue an address to the different regularly organized medical societies, and chartered medical schools of the United States, setting forth the objects of the National Medical Association, and inviting them to send delegates to a Convention to be held in Philadelphia, on the first Wednesday in May, 1847.

In obedience to the above resolution, the committee appointed for the purpose present the following remarks to the members of the medical profession generally, as well as to the several bodies named in the resolution:—

In compliance with an invitation from the Medical Society of the State of New York, delegates from various medical societies and schools met in Convention in the city of New York, on the first Tuesday of May, 1846. About one hundred members were present, representing thirty-four different medical associations, and residents in sixteen different states of the Union. The object of the Convention was, by a concert of action of medical men from every part of the country, to advance the interests, the honor, and the usesfulness of the profession. The result of their deliberations, as shown in their published proceedings, has been widely circulated, so that all who take an interest in such matters, are probably fully informed of it; still, some remarks upon the course which was pursued, together with the reasons for it, may be appropriate.

The first object which engaged the attention of the Convention was the necessity of forming some plan of organization, by which medical men in every part of the country may communicate with each other, and act in concert, in regard to their common interests. The general opinion was, that this desirable object would be best attained by the formation of a National Medical Association, to consist of members from every part of the country, who should meet together for consultation and action, at such times and places as they might deem expedient. Although no doubt was expressed of the propriety of such an organization, there were other subjects

connected with it, such as, who should be members of the association? how and by whom should they be selected? if delegates, what should be their number? what power should be conferred upon them, and how far should their acts be binding upon the bodies whom they represent? concerning which there would probably be difference of opinion. As no one had been charged with the consideration of these subjects, no definite plan of organization had been prepared, upon which the Convention could act with that careful deliberation which the importance of the business demanded. It was thought best, therefore, to postpone all definite action upon it until a future Convention. This opinion was strengthened by the fact, that although the number of members present was larger than had been anticipated, yet many most respectable medical societies and schools, who are doubtless equally solicitous with those who were present, for the welfare of the profession, and as ready to promote its interests, were not represented. This deficiency, it was hoped, would be remedied in a future Convention. In the meantime, the consideration of these subjects was intrusted to a committee, who will prepare a plan for a National Medical Association, which will be presented to the proposed future Convention.

The other subjects which engaged the attention of the Convention, related principally to medical education; such as the qualifications which should be required of those about to engage in the study of medicine; the course of study which should be pursued by them; the mode of examination which should be adopted, and others of a similar kind. For reasons like those given above, these several matters were also placed in the hands of committees to examine, and report upon them. The same course was also pursued in regard to the preparation of a code of medical ethics, by which the intercourse of physicians with each other, and with the public, shall be regulated.

From this statement it will be seen that matters of great interest are presented for consideration, and that if wise measures in regard to them are adopted, such errors and abuses as may be found to exist, will be corrected; the profession will be guarded against the admission of incompetent or unworthy members; the purity, professional and moral, of those who are allowed to continue in it, will be preserved; and that thus full assurance, such as it has a right to demand, will be given to the community, that all who are acknowledged by medical men to be of their number, are worthy

and competent to perform the duties, and to sustain the resposibilities of an arduous and honorable profession.

It remains to be seen whether these desirable objects shall be accomplished. It is obvious that this can be done only by general and united exertion. All partial or divided action will be unavailing. It is equally true, that whatever is done, must be accomplished by medical men themselves. In some countries, the interests of the medical profession, like others of great importance to the community, are regulated, sustained, and protected by public law. In this country, no general law, even if it were desirable, can ever exist. In many of the states, no laws upon this subject have ever been enacted; in several, where they have formerly existed, they have been repealed, and in those where they still remain, there is a general complaint of their inefficiency. In this state of things, the only resource which remains, is, for medical men to establish and enforce among themselves such regulations as shall purify and elevate their own body, and thus more fully command the respect and confidence of their fellow-men. The proposed association, if it becomes general, may be the means of accomplishing much of this good work. The opinions of such a body of the most respectable members of the profession, enjoying the confidence of their brethren, and of the public, freely expressed after full consultation and careful deliberation, although not clothed with the authority of the law, will still command respect, and for the most part, compliance. A public opinion in regard to the subjects decided upon, will be created, which will be more controlling than law. It is by creating and sustaining a sound and healthy public opinion, that the association will prove most beneficial.

In calling the attention of the physicians of this country to such an effort at this time, it is not intended to express the opinion, for no such opinion is entertained, that they are behind those of other countries, or the members of the other professions in this, in general intelligence, in scientific attainments, or in practical skill. Still it is to be remembered that the present is peculiarly an age of advance in every department of science, and that at such a time to rest satisfied with present attainments, and to make no provisions for increased acquisitions, is practical retrocession.

In this state of things, the committee feel themselves fully authorized to call upon the medical profession throughout the country to consider, carefully and deliberately, the matters which have been presented to them, and upon which a

future convention will be called on to act. They also earnestly invite all medical societies, the faculties of all medical colleges, and all similar associations to appoint delegates to meet in Convention in Philadelphia, on the first Wednesday in May, 1847.

It is confidently believed that a Convention thus constituted, embodying the wisdom, and acting under the sanction, and with the authority of the united profession, will devise such measures as shall command the respect of all who are interested in the promotion of the medical science, and the physical welfare of man.

In behalf of the Committee,

J. KNIGHT, M.D., *Chairman.*

Aneurism, spontaneously cured. By W. H. ROBERT, M.D., of Madison, Ga.—Mr T. Harris, aged about 35 years, was bled by a neighbor on the 17th April last. On seeing him a few days after, he stated that immediately after his arm was bound up he observed a tumor where he had been bled, which had continued to increase ever since. The arm now presented all the symptoms of aneurism; diminished temperature, indistinct pulsation of the radial artery at the wrist, a pulsating tumor which subsided on pressure, and filled again when this was discontinued, which ceased to pulsate when the brachial artery was compressed, and in which the bellows sound was distinctly heard.

I explained to Mr. H. the nature of the operation usual in such cases, and advised him to submit to it. Finding, however, that he was unwilling to adopt this course until he could gather in his crop, I advised him to keep the arm perfectly quiet. In July the tumor had attained the size of a hen's egg, but about the second week in August it began to diminish, the pulsation became less distinct in the tumor and stronger at the wrist, the arm grew warmer, and this state of things has been gradually progressing until the present time. The arm now presents the following appearance: it is as warm as the other; the pulsation at the wrist is normal; there is no pulsation whatever in the tumor, which is about the size of a filbert and apparently perfectly encysted, being easily moved about under the skin, and which does not diminish on pressure. I attribute this unexpected result to the quiescent state of the limb.—*Southern Med. & Surg. Jour.*

Report upon the Hemostatic Virtues of the Brocchieri Water and Ergotine.—The editors of the *Southern Journal of Medicine and Pharmacy* have made an interesting report on this subject, in which they come to the following conclusions:

From the numerous experiments performed, and from the manner in which they were modified, as well as the care bestowed upon them, without reference to their favorable or unfavorable results, we are warranted in coming to the following conclusions:

1st. That when Brocchieri Water, ergotine, or a watery emulsion of creosote, is applied to the divided artery of a sheep, it depends greatly, if not altogether, upon the manner in which the lint is applied to the wound on the artery, whether the hemorrhage is arrested or not. If it be placed immediately upon the orifice of the cut vessel, the success is certain; if, however, the vessel shrink from contact with the lint, the animal is almost certain to bleed to death. The former is shown by the experiments 4 and 5 of the first report, and by 3, 5 and 6 in the present one; and the latter, by experiments 1, 2, and 4, in this report.

2d. That by a small pledget of *simple lint*, placed immediately upon the incision made into a sheep's carotid artery, that the homorrhage is arrested in a few moments; and after a lapse of from twenty to thirty minutes, the animal may be let loose, without any apprehension of the return of the hemorrhage. If the lint be applied so as not to touch the wound in the artery, all effort to arrest the hemorrhage becomes ineffectual; this is proved by reference to experiments 1, 2 and 3 of the first report, while experiments 7, 8 and 9 give evidence of what was first stated. From these results, it will be seen how many difficulties often attend the simplest experiments, and how important it is to leave no point, not the most apparently trivial, without close examination; it is true, it requires time and trouble, but both are more than compensated for by a knowledge that we become in possession of truths that are important to ourselvs and to others.

3d. The sheep is an unfit animal to try the hemostatic power of substances, with reference to what their fitness may be in the case of the human subject; for although sheep will bleed to death by a wound in one of the larger arteries, still, by the application of a small pledget of lint, sustained with a little pressure *immediately upon the wound in the vessel*, the hemorrhage will cease, and the animal survive. The

same we are convinced may be said of all like experiments upon the lower class of animals, as in many of them the hemorrhage from the larger vessel will be arrested spontaneously; this is true of the dog; in fact, so far as our knowledge extends, the sheep is more readily bled to death than almost any other of the quadrupeds. Furthermore, the blood of animals is more plastic, coagulating with far greater rapidity than that of man; and as the arresting of the hemorrhage in these experiments is dependent upon the formation of a clot around the opening and in the cavity of the vessel, it ought therefore to happen more readily in them than in man.

4th. If the hemostatic virtues of the agents already alluded to, are to be correctly ascertained, it is only *by experiments upon the human subject*, and no value should be given to those made in any other way. Whether the Brocchieri water, ergotine and creosote will stand this test, we are not as yet prepared to say, although several experiments made with them have come to our notice, but they are of so contradictory a character, that no definite conclusion can be formed. These substances no doubt hasten the coagulation of blood, and may, under some circumstances, arrest hemorrhage coming from the smaller arteries; but in the case of the larger vessels, they are of no manner of use, at least not more than the lint without them.

The experiments on the human subject that have come to our notice are,—wound on the hand, oozing, some time after the operation of hydrocele; oozing from a tumour on the back;—tried with Brocchieri water. In the first case, there appeared to be no effect; in the last two, some slight effect; the oozing in the case of the hydrocele, although diminished, could not be arrested. In a case of hemorrhoids that was operated upon, application of the ergotine was made with apparently good effect. In two cases of operation for hydrocele, the emulsion of creosote was used; in one of them, the bleeding from the small vessels was arrested; in the other no effect. So it is clear, that as yet, there is no danger of ligatures being supplanted by either of the above agents.

Compound Fracture of the Cranium—Loss of a portion of the Brain—Recovery. By Paul F. Eve, M.D., Professor of Surgery in the Medical College of Georgia.—In the July No., for this year, of the Provincial Medical and Surgical Journal, (England,) Mr. F. P. Smith relates a case of compound frac-

ture of the skull in a child of four years old, who perfectly recovered, notwithstanding there had been the loss of a portion of the brain. The boy while playing under a wagon, had his head caught between the spokes of the hind wheel, and the horses starting at this moment, he was carried round and his head forced between one of the spokes and a projecting iron bolt, a space of not more than three inches and a half.

"On examining the head, I found a most frightful lacerated wound of the scalp, extending from the right temple across the forehead, and terminating in the left eye-brow; the frontal bone was laid completely bare, and the right superciliary ridge from its external to its internal angle, including a portion of the orbitar plate, was torn up. On removing this, which laid loose in the wound, I found attached to it a portion of brain, of the size of the end of the little finger, and weighing about thirty grains; four other smaller portions of bone were also removed. After cleansing the wound, I brought the flaps together, retained them so by means of several sutures, leaving a depending opening at the outer angle. Lint, dipped in cold water, was kept constantly applied over all, including the eye, which appeared to have received irremediable injury. The little patient was placed in bed, an active purgative was given, and he was confined to a milk and water diet, which was continued for a fortnight. On the following day I found he had passed a tolerably quiet night, the medicine had acted freely, and in all respects he was very much better than I expected to find him.

"To be brief, the case progressed most favorably, without a single bad symptom; in three weeks the wound had healed excepting a small opening at the outer angle; and at the end of six weeks he was playing about in his usual health. The sight of the right eye is gone and he is unable to raise the eyelid. After recovery, this boy exhibited the same restless and mischievous disposition as before the accident, which caused the loss of a portion of the cerebral substance."

Cases of recovery after portions of the brain have been lost do, occasionally occur both in civil and military practice. Some most remarkable instances will be recalled by those familiar with the records of surgery. These, however, will not vitiate the principle long established, that death is the usual result when the substance of the brain is injured in compound fractures of the cranium.

The only case where recovery took place under these circumstances within my observation, is the one about to be detailed, and the reader will remark how similar in many respects it is to the one quoted above.

A son of one of our physicians, aged six years, while leaning out of a window, fell the distance of nineteen feet upon a brick pavement. Those who saw him fall, stated he first struck his forehead, then rebounded, and was taken up for dead. This happened in September, 1840. When seen a few minutes after the accident, the left superciliary ridge or process of the os frontis was found fractured, and lying loose in the upper eyelid. It seemed to have but one attachment, and that near the nasal process of the same bone. A portion of the brain was oozing out of the lacerated wound made in the integuments near the external angle of the left eye. Our attention too, was was directed to some cerebral substance at the spot where the fall took place. I estimated the quantity of brain which escaped at the time of the accident and during the subsequent dressings to amount to a teaspoonful, or about forty grains weight. In addition to the compound fracture of the cranium with the accompanying symptoms of depression, &c., the patient sustained a dislocation of both hands backwards. These were reduced, but his father objected to the removal of the loose fragments of the superciliary process from the eyelids, or even to an attempt by pressure to replace them. The treatment pursued in the case was essentially negative, reaction spontaneously occurred without much inflammation, and in the course of a few days, the patient was sitting up.

Up to the present date, six years after the accident, Robert has continued to enjoy good health with the exception of occasional convulsions. His physical and mental faculties have been steadily developing, and he remains what he was previous to his fall, a very active restless boy. There is still a marked fullness in the left eyelid, produced by the superciliary process which is felt near its tarsal cartilage. The sight of his eye is good, but the lids often inflame and ulcerate. Above this is a large space occupied by bone, and where pulsation can be seen and felt. Pressure, or a blow, upon this spot at any time has produced convulsions, and his parents think he cannot confine his mind to close application or study.

In operating with the trephine, I have injured the brain, without unpleasant consequences to the patient.—*Southern Med. & Surg. Jour.*

Treatment of Cataract.—At the session of the Congress of Italian *savans*, held in Naples last year, Prof. Paliotti recommended as a remedy for cataract the internal use of iodide of potassium, and ammoniacal cauterization on the temples. He declared that even in cases where this treatment did not effect a cure, it rendered the success of the operation more certain. M.M. Quadri and de Horatus were appointed to make experiments with this method and report the result of their observations at the next session.—*Gaz. Médicale.—Ibid.*

Treatment of Nervous Constipation.—Prof. Lippich combats constipation, when it obstinately resists the means ordinarily employed, by the use of the following lavement:

℞ Asafœtida, - - - - - - - 12 grammes.
Common Vinegar, - - - 30 grammes.
Honey, - - - - - - - - 60 grammes.
Barley Water, - - - - 300 grammes.
Yolk of Eggs, - - - - - q. s.

Mix thoroughly, and divide into two lavements to be administered with an interval of an hour.—*Ibid.*

Poisoning by Arsenic.—The widow M., and Antoine B. were recently tried at the assizes of Herault for the double crime of adultery and poisoning the husband of the female prisoner. The facts, as they appeared in evidence, were as follows:—In August, 1844, shortly after several violent quarrels between M. and his wife, caused by the intimacy between the latter and B., and just at the period when B., because of the consequent scandal, had lost his only means of subsistence, M. fell sick. The symptoms of his malady were shiverings, cold perspirations, great itching in the extremities, and at length considerable emaciation. As no suspicion was then excited, and as the symptoms presented periods of subsidence which simulated intermission, they were considered as the effect of accesses of fever, especially as intermittent fever is epidemic in the locality, and his wife was actually laboring under that disease. The wife, becoming convalescent, paid a visit to her family, and during her absence, her husband, whose malady had been so serious that he sought for the consolotions of the church, became convalescent also. On the return of the wife, the husband's malady again be-

came aggravated, and continued until the vintage, at which period the wife again left home to superintend some matters of business, and during her absence, which continued a fortnight, the husband's health was so far re-establishing that he was able to look after his affairs. His physicians then considered that he had only to continue the prescribed regimen to become perfectly restored to health. From this period M. continued in the country with his wife, but his convalescence, instead of being progressive, was suddenly interrupted. For a few days he felt tolerably well, but then his former sufferings commenced to return. New symptoms were also gradually superadded; vomiting occurred several times, and the wife on each occasion threw the ejected matter out of the window. On one occasion M. vomited on the floor, and the wife scattered ashes on what was thrown from the stomach, and subsequently washed the floor with potash.

Nothing as yet, however, indicated that M. was near his death. Early in December he attended to his affairs as usual; but on the 5th of that month, after a short walk, he became chilly, and took to his bed in the afternoon. From that moment his wife never left him, and no one else entered his chamber.

On the 6th December M. died, no one being present, says the wife, who informed the inmates of the house that her husband had just expired tranquilly, and without convulsions. The inferior extremities, however, were found contracted, the body was already cold and cadaveric, rigidity so great that it was impossible to remove the clothes completely.

Some vague suspicions at first existed, but soon subsided, until they subsequently become revived and strengthened by a train of circumstances unnecessary to be detailed. The authorities then directed the body to be exhumed, when the usual fact was observed, that the extremities were completely decomposed, while the parietes and viscera of the abdomen, which usually putrefy first, were in a state of perfect preservation. This circumstance, together with the existence of some yellow stains, such as might be produced by the action of the certain products of putrefaction on a compound of arsenic, raised a suspicion that M. might have been poisoned by such a substance. This suspicion was converted into a certainty by chemical analysis. Arsenic was detected in the intestines, in the liver, in the spleen, in the kidneys, in the bladder, in the heart, in the lungs, in the muscles of the stomach and of the abdomen, as also in the liquid contents of the hollow abdominal viscera.

As M. had vomited several times, and his wife had disposed of the material vomited by throwing it from a window, and washing the floor, arsenic was sought for in these situations. The soil in the immediate vicinity of the window and also at a certain distance from it, was collected and analysed, as were scrapings from various parts of the floor of the chamber. Arsenic was detected to a marked amount in the soil collected next the wall immediately under the window, and also, but in a much smaller quantity, in that collected within the space of 8 or 10 feet from that point. All the scrapings from those parts of the floor which were stained with the material rejected by vomiting yielded arsenic, but not a trace of that substance could be detected in those taken from other situations.

In anticipation of a system of defence, which was actually adopted, some earth taken from above, from beneath, and from each side of M.'s coffin was analysed, and was found to be completely exempt from arsenic.—*Dublin Med. Press* from *Gaz. Médicale.—Med. Ex.*

Poisoning by Lead-Shot left in a Bottle.—An individual was seized with violent colic and symptoms of poisoning, after having drank several glasses of liquor. Dr. Hohl, who was called to the patient, examined the liquid, and found it to be turbid instead of clear; and on pouring it out into a glass, he discovered at the bottom of the bottle two pellets of shot which had become firmly fixed and converted by corrosion to carbonate of lead. On examining them, he found only a very small nucleus of metallic lead in the centre of each: so long as the liquor was clear, no ill effects had followed its use,—these had only occurred when the turbid portion, near the bottom of the bottle, had been taken. The liquor was proved to hold suspended a salt of lead, from which the symptoms of poisoning had undoubtedly arisen. This shows that great care should be used in cleansing bottles; and that a few shot left in them may give rise to all the symptoms of lead-poisoning.—*Lon. Med. Gaz.—Ibid.*

Cholera in Holland.—This disease, under the mild form of what has been termed by the French *cholerine*, has made its appearance at Amsterdam and Rotterdam, and has already attacked a great number of individuals, but not one of the cases has proved fatal.—*Naval & Military Gaz.—Gaz. Méd. —Med. News.*

Two ounces of Nitrate of Potash taken at once.—Mr. Gillard communicated to the S. W. branch of the Prov. Med. and Surg. Association, an account of a case in which two ounces of nitrate of potash were taken by a man in mistake for epsom salts. Five minutes after taking it a burning pain in the stomach was felt, which was followed by sickness. The mistake was then discovered. A mustard emetic was administered, followed by carbonate of magnesia and opium. Under this treatment the patient speedily recovered.—*Ibid.*

Digestion in 1846.—At last the phenomena of digestion are enlightened: digestion is no more to be considered a simple but a complex function. There are as many digestions as organs. First, the stomach, by which animal food is dissolved; it is in carnivorous animals almost the only intestine and they require no other; their digestion is gastric; it is intestinal in herbivorous tribes. After the incisors and cuspidati come the molares: in the same manner after the carnivorous intestine we find the intestines which digest grains and vegetables masticated by the molares. In the small intestines, feculent substances are absorbed and saccharified—a fact proved by a simple experiment; fecula taken in the stomach immediately above the pylorus will become blue when placed in contact with iodine, and will, on the contrary, not change color after its passage through the pyloric orifice. It is this, the principal phenomenon of digestion in the duodenum, which has led to the discovery of the saccharifying power of the pancreatic secretion. Hence not only a change in the theory of digestion, but in the pathology of diabetes; we can no longer admit that the kidneys secrete sugar, but that they allow the passage of the saccharine matter contained in the blood.

All these discoveries are in themselves important scientific acquisitions; but their importance is doubled when their practical consequences are reflected upon. The whole history of gastralgia, *rudis indigestaque moles*, must begin anew. No theories can be compared to the recent discovery of the following facts. Eat meat, the urine becomes acid; eat vegetables, it immediately becomes alkaline.

The gastric juice is a powerful acid which readily gives birth by fermentation to gaseous products. In dyspepsia it is therefore a mistaken practice to recommend the use of alka-

line salts, by which the digestion of animal food is retarded. The corrosive nature of the fluid accounts for gastric pain, pyrosis, &c., most probably the result of its contact with dry portions of the mucous membrane. By fermentation in the stomach, foul breath and flatulency will be produced; alkaline medicines will be of no avail, but mild laxatives are fully indicated. The digestive power of the gastric juice varies with its heat: below 10 degrees and above 35 degrees, that power diminishes and is completely lost beyond 50 deg. It is therefore not proper to eat very hot substances.

The stomach being the organ in which animal food is dissolved, meat should not be given in gastric affections; whereas feculent substances, digested in the jejunum, can be safely permitted.—*Med. Times* from *Jour. de Méd.—Ibid.*

Cholera in Persia.—The last Levant packet which arrived at Malta brought the intelligence that the cholera had broken out in Persia, particularly at Teheran, where one of the brothers of the Schah has fallen. The Schah, with his court, had sought refuge in the mountains. It is feared that, as in 1832, this scourge may again visit Asia Minor and the Mediterranean.

The latest intelligence from Aden announces that the cholera had disappeared from that place, and that the troops were healthy.—*Lond. Med. Gaz. —Ibid.*

Delirium Tremens in an Infant.—A little boy, five years of age, swallowed by mistake a large quantity of brandy. Vomiting speedily followed, and he passed a restless night, sleeping only toward morning. On awaking, it was observed that he had tremor of the hands, and that he could not hold a cup steadily. Convulsions with cramps ensued. The pulse was slow, the look timid, the pupils dilated, and the countenance pale. Delirium supervened, and there was dysuria with great thirst. A cataplasm was applied to the abdomen, and calomel and jalap were administered. The symptoms abated about the middle of the day; but towards evening there was a return of the tremor, with other nervous symptoms. An opiate was exhibited, from the effects of which the child slept soundly, and on awaking the whole of the symptoms had disappeared.—*Gaz. des Hôp.—Ibid.*

Cholera at Kurrachee.—The seaport of Kurrachee, formerly one of the healthiest military stations, has, ever since it became known to us, been visited triennially with cholera. In 1839, and again in 1842, the amount of suffering occasioned by it was terrible, yet slight to that which it has just endured. Between the 13th and 23d June, above 8000 human beings were cut off by it, including 895 Europeans, of whom 815 were fighting men, 595 sepoys; and, it is believed, about 7000 natives, besides camp followers, and inhabitants of the town, have died. The pestilence had quitted Kurrachee, and was apparently creeping up the river. Fever of a very fatal kind had made its appearance amongst the European soldiers at Sukkur: its triennial visit is to be looked for next year. Her majesty's 17th had chiefly suffered: it was said they were to be moved down, while her majesty's 86th were to move up to Hydrabad.

An extremely dry season has been followed by an unusually wet one; between the 9th of June and the 17th July upwards of 35 inches of rain fell.

The Kurrachee Advertiser states that 7000 of the inhabitants have been cut off by cholera—nearly 9000 victims in ten days' time.

Of the 60th Rifles there died 4 sergeants, 101 men, 4 women, and 3 children. Total, 112.

Of the 86th Regiment: 1 officer, 24 sergeants, 329 men, 17 women, and 16 children. Total, 387.

Of the Company's Artillery: 4 sergeants, 19 men, 2 women, and 6 children. Total, 31.

Of the 1st Bombay European Regiment (Fusiliers): 1 officer, 18 sergeants, 314 men, 9 women, and 23 children. Total, 365.

Of the 3d N. I., 310 sepoys; of the 12th N. I., 236 sepoys; of the Belooch Batt., 49. Grand total, 1490; independent of the inhabitants.—*N. & M. Gaz.—Ibid.*

Chronic Articular Inflammations.—M. Biéckly prefers the following formula:

Nitrate of silver, ʒiv.
Water, sufficient to dissolve this salt.
Lard, ʒxxxii.
Mix.

Frictions are to be made twice a day, with 4 or 5 scruples each time. The third or fourth day the skin will have the

aspect of shining black polished leather. These frictions produce no pain nor tegumentary irritation, if we except some few vesicles. The treatment ought to be stopped now for a few days, until the black epiderum peals off, and the skin resumes its normal color. Under this ointment, deep articular alterations are modified; the heat and pain subside, the effusion is absorbed and the swelling dissipated. M. B. thinks the preparation is absorbed.—*S. Med. & Surg. Jour.*

Asiatic Cholera.—This disease, which made its appearance at Aden early in May, has, in consequence of the changing of the monsoon, nearly vanished, isolated cases occurring only at intervals. During the five days it raged, upwards of four hundred persons were carried off, the deaths being four out of five attacked; the cholera is, however, rapidly advancing along the territory of Yemen, and fears may be entertained of its appearance on the shores of the Mediterranean. The disease is making dreadful havoc in India.—*Med. Times.—Ibid.*

Anecdote of the Pay of Physicians.—One day, old Kien-Long, Emperor of China, asked George Stanton how Doctors were paid in England. When he comprehended the system, he exclaimed, "can there be a single Englishman in good health? Let me tell you how I treat my physicians. There are four to whom my health is confided. They receive a certain sum every week; but the moment I am taken sick, their salaries are stopped until I get better. It is scarcely necessary for me to add that my complaints do not last long."—*S. Med. & Surg. Jour.*

THE WESTERN JOURNAL.

NEW SERIES.—VOL. VI.—No. VI.

LOUISVILLE, DECEMBER 1, 1846.

With the present number is completed the fourteenth volume of the Western Journal of Medicine and Surgery, and at the conclusion of it we have but a few words to say to our readers. We have labored to render the Journal useful, and the marks of public favor afforded by the subscription list are such, that we are encouraged to persevere in our labors. The first number of the fifteeenth volume will appear punctually on the first day of the New Year. We have again to solicit from our professional brethren the contributions of their pens, and would particularly invite their attention to the unassuming department, in which we record "facts from correspondents." We shall be thankful for any medical facts communicated, no matter how brief, or how unstudied soever the form; and we trust that among our readers there are many who would be willing to take some pains to increase the number of our subscribers. With a trifling exertion on the part of those who take an interest in the Western Journal, we feel assured that the list of its subscribers might be doubled in the course of a single year. May we not hope to be witnesses of such a result, which, while it might be beneficial to the interests of our profession, would afford us fresh incentives to labor?

UNIVERSITY OF LOUISVILLE.

It affords us great pleasure to say, that the first session of our University opens auspiciously. As our readers generally know, that which *was* the *Medical Institute of Louisville*, is now the MEDICAL DEPARTMENT of the UNIVERSITY OF LOUISVILLE. The ultimate number of pupils in the last session of the former, was three hundred and forty-five; the present number, constituting the first class of the University is three hundred and thirty-nine. A few more may be added, of such as have been kept back by sickness, or are but beginning the study of medicine. Thus the class is substantially the same as that of last year; but as the population of the interior of the continent is increasing, our class should also have increased. This we believe would have been the case, but for two or three causes which we shall proceed to assign.

1st. The session of 1844 had two hundred and eighty-six—that of 1845, three hundred and forty five, an advance of fifty-nine.—Now this extraordinary increase was, in fact, that of two years. It was a rate of growth which, of course, could not be kept up.

2d. The volunteering for the Mexican war has, beyond a doubt, taken off students who might have been here.

3d. The general reduction in the amount of the cotton crop, is known to have kept away a number. These, we think, are the causes why the present is not larger than the preceding class.

That the class has risen a second time to more than three hundred, shows that the increase of last year was not owing to any temporary causes, as some persons at that time conjectured; and that it may be maintained at what it is, is rendered extremely probable. We can see no reason, indeed, why the number should not rise to three hundred and fifty, and continue at that average; for ten years are not sufficient for the full development of a school, and the present is but the tenth session of ours. When it was begun in 1837, the number of interior schools was six—it is now fourteen. Thus in ten years, seven new ones have been started, showing that ours has not attained its pre-eminence without a well contested and earnest competition.

We may be permitted again to mention, that the Trustees of the University of Louisville have erected a LAW DEPARTMENT, of three professorships, and appointed Messrs. Pirtle, Duncan, and Lough-

borough, distinguished members of the Louisville bar, as professors. The first session of the school opened with the beginning of November. The number of pupils, we understand, is thirty-two, which may be regarded as decidedly promising for a first class. By the ordinances of the University they are entitled to gratuitous admission to all the lectures on Medical Jurisprudence delivered in the medical department.

PROGRESS OF DENTAL SURGERY.

We have lately received the first annual catalogue of the Ohio College of Dental Surgery, in Cincinnati. It has a board of trustees acting under a charter from the Legislature of that State, and a respectable Faculty, including professors of Anatomy and Chemistry. The three professors of Dental Science and Art, are not inferior in skill and attainment to any others in the Valley of the Mississippi. The college has erected a suitable edifice and furnished it with the requisite means of instruction. The class of last year was decidedly encouraging. We cannot but look with warm approbation and lively hope upon this first Western effort to create a school for the education of dental surgeons; and we trust that the day is not distant, when no dentist will receive the patronage of society who is not regularly educated.

We have also received the "Proceedings of the Mississippi Valley Association of Dental Surgeons," at their second annual meeting, held at Cincinnati, in the Hall of the College, in the month of September last. One object of this Association is, to create a profession, and dignify it, by adopting high rules of professional conduct. Another, is to elicit papers that shall communicate valuable discoveries; thereby provoking that discussion which cannot fail to develop truth, correct error, and quicken invention. These objects are of the highest importance. We perceive by the "Proceedings" that the Association numbers about thirty members. It should comprehend at least a hundred; and we hope ere long to hear of such an augmentation. It is time that those who practise this branch of the healing art should awake from their slumber, and leave their insulation,

and look each other in the face, and take each other by the hand, and make "a long pull, a strong pull, and a pull all together," to advance and elevate that portion of *the* profession which is confided to them.

ERRATA.

Page 370, line 5 from bottom, for 'readers,' read 'reader.'
" 371 " 10 " " 'of train,' read 'train of.'
" 372 " 11 from top, for 'scurvy,' read scurfy.'
386, 425, and 427 pages, after 'Med. Chir. Rev., read 'new series.'
397 line 23, and 398 line 12, for 'purpura,' and 'purpuraceous,' read 'furfuraceous.'
Page 399, line 5 from top, for 'where,' read 'whose.'
" 400 " 8 " for 'suitable,' read 'situated.'
" 402 last line, for 'tathe,' read 'at the.'
" 405 line 33 from top, for 'enables,' read 'enable.'
" 406 " 27 " for 'appears,' read 'appear.'
" 415 " 3 " after esteemed, read 'as.'
" 415 last line, after diversity, read 'of opinion.'
" 416 line 21 from top, for 'varieties,' read 'variation.'
" 419 " 3 " for 'iodine,' read 'iodide.'
" 419 " 5 " for '$\frac{1}{52}$, $\frac{1}{54}$,' read '$\frac{1}{54}$, $\frac{1}{52}$.'
" 419 " 15 " for '$1\frac{1}{8}$,' read '$\frac{1}{18}$.'
" 424 " 23 " for 'removed,' read 'renewed.'

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